

FOR CURRENT PRICES SEE PAGE 448.

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FORTY-SECOND YEAR.

INDEX

JULY 29, 1921.

**PRICE SIXPENCE
EVERY FRIDAY.**

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prises three pages of descriptive letterpress (which reach a high standard of typographic excellence) a familiar panorama of the paper-making machine, and some really beautifully-produced views of departments. Following this we have examples of colour litho heading and stationery forms on specified papers. With the loose leaf system and a more elaborate display of styles, it is conceivable that a business getting policy could easily be promoted here. Then we come to the sampling proper. The various classes of paper are open to view on the stepping principle. Specifications are made in English and metric dimensions, but the latter is made to grammes per square metre. Names are given in name and in French, a concession to those who prefer the latter. A name size means nothing in the metric system. The printings are, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, and the weight 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300, so that we are not left with the problem of varying

which makes paper users press for standardisation. The really novel feature of this Red Sample Book is the inclusion of sampling leaves perforated in strips and bearing the specification of grade and substance. Here a service is rendered to the user and the book is preserved from speedy mutilation.

The ideal in paper standardisation, being, size on the golden rule or hypotenuse oblong, has long been advocated in America where Mr Werner is the chief protagonist. On occasions we have referred to the scheme but while recognising its artistic merit have always felt that it was a commercial impossibility. Where magazines and special decorative productions are concerned the artistic ideal can be realised without difficulty, if not without expense. The new proposals emanating from India are interesting, but belated. If there are ordinary obstacles in the way of getting the printers' official scheme of standardisation accepted by wholesalers the difficulties encountered by a scheme aiming at artistic standardisation would be absolutely insuperable. It is too late in the day to put forward fresh schemes. The one before the public has been modelled, revised, shaped and fitted to suit the needs of the English paper trade. The smallest and largest paper users and paper producers have shared in the development of the scheme. It has been under discussion for years and practical men all over the country have devoted close consideration to its probable workings and applications. It is safe to say that nothing can be devised which will more simply and easily fit in with practice and custom while at the same time achieving the purpose for which it is set out. The one thing necessary now is for every user of paper to concentrate upon getting standardisation into practice. Once begun all the doubts and difficulties of the paper merchant will vanish as they always do when a well thought out system is

places an old and chaotic series of customs.

The market price of Dutch strawboards seems to have levelled itself at 18 10s per ton (basis price) and very little is being seen of the £6 or £7 offers which were in evidence some weeks ago. As yet there is no demand, however, and very little likelihood of any appreciable increase in the near future. Wood pulp boards are quoted £25 to £30 per ton and supplies are not by any means over abundant. Foreign unglazed bank is on offer at 5½d per lb for ton lots but the standard qualities are still between 6d and 7d per lb. German S.C. mechanical is available at 3½d per lb and glazed mechanical at 3d to 3½d according to substance. Some exceptional offers of Belgian printings are also announced while high grade manillas are quoted £45 to £60 per ton.

Messrs Wiggins Teape and Co Ltd are pushing the sale of their goatskin parchment, a notable innovation in strength papers. Not long ago the adaptability of goatskin as a substitute for writing parchments and foils was illustrated for the benefit of possible users, then we had a display of its suitability as an economiser for cloth lined envelopes. Now it is shown as a pattern folder for use in the textile and clothing trades. Few houses recognise the value of publicity more than W. T. and Co. and their policy is the right one to promote sales.

Revised price lists (showing slight reductions) are to hand from quite a number of mills and houses including A. Paine and Sons, J. Dickinson and Co. Ltd, R. Sommerville and Co. Ltd, St. Neot, C. Baker and Sons, Ltd and Busbridge and Co. Ltd. There are still a large number of merchants who have not realised the necessity of keeping users posted with current price lists in these days of constant competition and continual estimating.

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British Foreign Paper Trade.

A Comparison with Pre-War Values

An analysis of the prices of paper and papermaking materials in 1913 and in the first six months of the present year afford an interesting study and the results are presented in detail in the *Board of Trade Journal* which has made a comparison between the present foreign trade and that before the war by estimating as nearly as the available data permit, the value which would be put upon imports and exports in the mass if each item had the same average value per unit of quantity as was declared for goods of the same description in 1913. In this way aggregate figures are obtained the comparison of which with the corresponding figures for 1913, enable the extent of the influence of price changes and the aggregate changes in volume of goods imported and exported to be estimated.

Imports of paper and cardboard under this comparison show an excess in value of 211.0 per cent and a deficiency in quantity of 49.7 per cent. Exports of foreign and colonial paper and cardboard give a value excess of 342.1 per cent and a quantity decrease of 70.1 per cent. Imports retained under this heading were worth 208.3 per cent more, while the quantity was 49.0 per cent less. Exports of United Kingdom paper and cardboard showed an appreciation in value of 316.8 per cent and a decrease in quantity of 42.2 per cent.

The average value of papermaking materials imported during the period mentioned shows a percentage increase over the values of 1913 of 407.2 per cent, while the quantity shows a deficiency of 62.8 per cent. Exports of foreign and colonial produce under the same heading show an increase of 366.7 per cent of average value and a decrease of 97.8 per cent in quantity. Papermaking materials from abroad and retained in this country show a percentage excess of average value in 1921 compared with 1913 of 407.3 per cent and a deficiency in quantity of 61 per cent. Exports of United Kingdom papermaking

materials show a percentage excess in value of 163.1 per cent and a deficiency in quantity of 74.7 per cent.

Irish "News" for Irish Papers.

By invitation of the directors of the Irish Paper Mills, Ltd., a score of members of the Associated Irish Newspapers and Irish Master Printers Association recently paid an interesting visit to the mills at Clondalkin.

Major Moore, the managing director presided at a lunch and Mr I. J. W. Kenny, President, Irish Master Printers Association in proposing 'the prosperity of the company' said the Irish provincial printers looked forward to the day when every bit of paper printed in Ireland would be manufactured on Irish soil. They had watched the development of the Clondalkin Mills with very keen pleasure and during the period of difficulty through which they had passed it was due to the mills that not a few Irish provincial newspapers had been saved from a temporary suspension of publication.

Mr I. K. McLaughan mentioned the fact that much was being made at present of the cheapness of Continental paper but those who were lured into investing in it would find by the time they had paid for the packing and carriage, it would not stand competition with the paper made by Irish hands at Clondalkin. (Applause)

The visitors were shown through the mill by Major Moore, Mr Guinness, Mr R. Claperton, and Mr Gregory, and the process of manufacture was fully explained. The mills are at present employing 270 hands, and the weekly wages bill amounts to £900. The output in "news" alone is 120 tons weekly, and about 60 tons of printings and writings are turned out weekly in addition to various boards for box manufacture, etc.

The new monthly 'Motor Coach A B C and Motor Omnibus Services' compiled by the British Road Traffic Association, is printed by the Morland Press, and published by F. J. Larby, Ltd.

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Imperial Paper Mills.

Some Striking Facts and Figures

An interesting illustrated description of the Imperial Paper Mills at Gravesend appears in a special two leaf inset of *The Times* (Trade Supplement), July 23rd. The photographs reproductions of aerial and other photographs afford a clear idea of the mills and their operations. The first is a view from the air showing the lay out of the 45 acre plant on the south side of the Thames opposite Ilbury Dock with a steamer discharging pulp at the company's deep water jetty. There is also a view of the works from the river and the private frontage to the Thames of 1200 ft. The proximity of the mills to Ilbury Docks and the facilities for dispatching paper to ocean going steamers are indicated in another picture of the river.

A particularly good set of illustrations give an insight to the efficiency of the plant and machinery. In the first are seen stokers busy on the battery of 23 Lancashire boilers working at 160 lb pressure, these being one of the several installations which combine to produce the 7,000 h.p. required. Then there are shown the stacks of wood pulp with conveyor at work. Some 33 acres of land are devoted to storing the bales an area by no means excessive it is pointed out in view of the company's output of 1,800 tons per week of finished paper.

Two of the most fascinating pictures perhaps, are those of the head and tail 'of one of the great Walmsley paper machines. In the first a copious stream of milky fluid, containing 1 per cent of paper pulp, is seen pouring into the machine to emerge some 215 feet away as an endless sheet of news print. At the other end with the machine in perspective, the paper is seen winding itself

on to the huge reels from 10 ft to 14 ft width.

Of course, the Northcliffe Press has a particular interest in these mills, because the paper produced at the Imperial Mills is used in the production of *The Times*, the *Daily Mail*, the *Daily Mirror*, the *Times Weekly Edition*, the *Overseas Mail*, the *Sunday Pictorial*, and so on. Hence we see in our illustration one of a large fleet of motor vehicles ready to start on its 20 miles journey to London with a load of news print, and in yet another view the loading of paper on to railway trucks which run directly into the mill premises. As is mentioned in the text the company enjoys facilities quite unrivalled for 'shipping' paper by land or sea to every part of the world.

The article in *The Times* (Trade Supplement) describes the historic site occupied by the Imperial Paper Mills and the manufacture of the pulp. It then proceeds

From Ship to Printing Press

The transport difficulties offered by the site are unrivalled in character. The quay frontage to the Thames extends to over 1200 ft., having a depth of water at neap tides of 15½ ft. and at spring tides of 19 ft. A jetty 300 ft. in length has been built out into the river which ensures a minimum depth along side of 28 ft. at low water spring tide. Steamers up to 8000 tons d.w. can thus berth here at any state of the tide. An up to date equipment for handling cargo has been installed capable of discharging 120 tons of wood pulp per hour from the holds of the vessel. From the ship's side the pulp is railed by fireless locomotives to the dumps, and carried thence as required to the mills by an elaborate system of conveyors.

Inside the mills everything that can shorten time and save labour has been carefully devised, with the result that wood pulp can be landed from the steamer, converted into paper and delivered into the London printing offices in a little over four hours. It is not only pos-

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sible but it often happens that only a period of five hours elapses between the point when the raw pulp is craned out of the vessel and the moment when the complete news paper printed, folded and containing the latest telegrams, is cradled by the newsboys on the London streets.

The record performance in speed was reached when pulp hauled straight from the steamer was turned into paper despatched to London, and returned again to the mills in the shape of a printed book all within the space of four hours. This is indeed a romance of industry the like of which it would be hard to parallel.

Inside the Mills

The mills cover an area of 12½ acres while an additional 33 acres is devoted to the storage of pulp. This may sound strange to those unfamiliar with the production of paper on a vast scale. But when it is realised that the present output of finished papers of all grades attains 1,400 tons per week and that with the extensions to the mills now almost complete the output will be raised to 1,800 tons it will be recognised that ample storage room is necessary for the raw materials of so great a business.

The mills which employ about 1,560 work people are as would be expected equipped with the most modern quick running paper making machinery requiring nearly 7,000 h.p. for its propulsion. This power is generated by a series of Lancashire boilers thirty eight in all each 30 ft. by 8 ft. 6 ins. working at 160 lb. pressure.

To those unacquainted with the making of paper the process would appear to border on the mysterious. At one end of the great Walmisley machines (each 215 ft. long roughly 10 ft. to 14 ft. wide) a copious stream of milky fluid containing about 1 per cent. of wood pulp flows inward whilst from the far end seventy yards away, an endless sheet of paper emerges reeling itself on to huge bobbins at the rate of a mile every eleven minutes.

with an approximate area of 1½ acres. As the machine runs day and night continuously, it will be easily computed that it produces roughly 200 acres of news print in the 24 hours. This is production on a grand scale. The East Mill holds six machines, making printing papers of various descriptions from the common varieties containing a large proportion of mechanically ground pulp, to the highest class of paper entirely free from mechanical pulp. The West Mill also with six machines is engaged in making news print as well as calendered and glazed papers from ordinary cheap to the very highest grades. Most of the output of the mills is for the home market. The extensions of buildings and plant above referred to will however enable the company to cope more fully with the demand of the foreign markets for their products.

Paper for the World

When we consider the large number the great importance and the world wide circulation of the publications printed on paper made at these works it is not going beyond the facts to assert that there is no person in the British Isles and a few, indeed in the Empire who do not habitually handle the products of the Imperial Paper Mills at Gravesend.

The company is now in a position not merely to satisfy the needs of the printing departments of the great London newspapers and magazines but also to meet overseas requirements on a competitive basis.

The Overseas Trade (Credit and Insurance) Amendment Bill has been read a third time in the House of Commons. During the discussion mention was made of Indian merchants breaking their contracts because the market had gone against them and it was stated that India was not excluded from the Bill the Government having full powers of discretion in regard to India.

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Paper Bag Wages.

At a meeting of the Paper Bag Trade Board (Great Britain) held recently it was agreed to issue a notice of proposal to reduce the minimum rates at present in operation in the trade the principal reductions being as follows:

General Minimum Time Rates

(A) Female Workers. Female workers of 18 years of age and over from 9½d to 8½d per hour.

(B) Male workers. (i) Machine tucklers of years of age and over who have had not less than 3 years experience as machine tucklers from 15 8½d to 15 6½d. (ii) Paper bag cutters of 24 years of age and over who have had not less than 3 years experience as machine cutters from 15 6½d to 15 5d. (iii) Hydraulic pressers, slitters, stock keepers, packers and despatchers after 3 years service after the age of 21 in the same occupation from 15 5d to 15 4½d. (iv) Male workers of 21 years of age and over other than those specified in (i), (ii), and (iii) above from 15 4½d to 15 3½d.

As regards machine tucklers, paper bag cutters, hydraulic pressers etc. of lesser age and on experience and as regards male and female units for whom the Trade Board have fixed minimum rates of wages the Trade Board propose to reduce such minimum rates in proportion to the proposed reductions respectively set out above.

Piece Work Basis Time Rates

All female workers from 9½d to 8½d

Overtime Rates

Overtime rates to be calculated on the proposed general minimum time rates or piece work basis time rates as the case may be.

Statutory notices setting out the rates in full will be sent in due course to all employers in the trade whose names and addresses are known to the Trade Board and a period of two months will be allowed from the date of the issue of the notice of proposal during which objections may be lodged.

An Australian Amalgamation.

An important amalgamation is reported from Australia. The business of Aulsebrook's Ltd. of Brisbane is amalgamated with that of P. J. Luth Ltd. of Sydney, Newcastle, Adelaide and Brisbane. Mr. J. R. Luth becomes managing director of Aulsebrook's Ltd. while Mr. C. W. Aulsebrook joins the board of P. J. Luth Ltd. whose directorate now consists of Messrs P. J. Luth, W. J. Adams, C. W. Aulsebrook, H. J. Hendy and J. R. Luth.

Aulsebrook's Ltd. was established in 1888 by Mr. Alexander Aulsebrook who learnt his business in Philadelphia. Aulsebrook's have deservedly the reputation of making the best quality and best finished boxes in Australia. Since the death of Mr. Alex. Aulsebrook in 1915 the business has been controlled by his son Mr. Charles W. Aulsebrook.

P. J. Luth Ltd. was established in 1891 at Sydney. In 1915 a branch factory was started at Newcastle and in 1919 branches were established in Adelaide and Brisbane. The branch in Brisbane has been under the management of Mr. W. G. Champion and under the amalgamation of Mr. Aulsebrook will be manager with Mr. Champion as sales superintendent.

After certain legal formalities are performed the name of Aulsebrook Ltd. will be changed to that of P. J. Luth (Queenland) Ltd. The new firm expects to have a turnover of about £200,000 per annum.

ARTIFICIAL SILK. The chairman of the large Belgian artificial silk firm the Viscose Artificial Silk Works stated at the recent meeting held in Brussels that during the past year four large Belgian makers (Obourg, Lubize, Most and Gysel) recommenced production and that Belgium has now regained the leading position in the industry which she had before the war. It is not considered he said that there was any fear of over production at present as new uses for the material are continually being found and prices are only about half of what they were last year.

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SAMPLES AND QUOTATIONS ON APPLICATION

Selling Paper at a Loss.

Is It Necessary?

Some apt and remarks have been made by Mr. J. J. Burke, the secretary-treasurer of the Cost Association (U.S.) on the very pressing question of selling paper below cost. 'Is it necessary to sell your products at a loss?' he asked an audience of paper men, and he himself interpreted the answer which he thought would be given by his hearers. 'Yes, for we must meet the market. It's all very well theorising, but the law of supply and demand governs the prices, and you cannot get away from it.'

To this Mr. Burke replied: 'You can get away from it. Other industries are getting, and have got away from it, and so can the paper and pulp industry, and the sooner the industry realises this the better it will be for it. You know that the Government has forbidden dumping in order to break weak competitors just as it has forbidden fixing selling prices, so when you quote prices below cost you are also coming close to breaking the law. Also we must remember the economic loss to the country at large caused by such failure. No administration wishes to encourage failures.' He mentioned that the U.S. Chamber of Commerce had issued a pamphlet entitled 'Overhead Expenses: How to Distribute them in Good and Bad Times,' wherein in the writer's contribution on the principle that a reserve should be built up out of costs for 'Inoperative Contingencies' in good times to take care of amongst other things 'overhead expenses incurred in bad times' and not properly chargeable to any of the products made when running. To return to the question of selling below cost, said Mr. Burke, it seems to me that in recent years perhaps little steel has been sold below cost, and yet has there not been a buyers' market in steel also? 'I think I am right in saying that those manufacturers simply refused to sell below cost, and there the matter ended. Now what we want to do is to make that sort of spirit universal in the paper and pulp

industry but before we can do that we have to ascertain as accurately as possible what our costs are.

Changes

The Swedish Government bill regarding the proposed provisional increase in the rates of Customs duty on certain industrial products on importation into Sweden sets out the list of goods on which it is proposed to increase the present duty by 100 per cent.

The list includes the following items from category XII paper (the present rate of duty being given in parenthesis): Wall paper including friezes etc. embossed (furnished with impressed patterns) all kinds of card in combination with oil resistant maces, ground papers coated on either side with grounds, all kinds also designed papers (matte) paper printed on paper coloured in the pulp) all with velvet surface pressed (goffered) varnished, lacquered coated with metal or metal (bronzed) kilog, some other kinds kilog, 2000.

The goods on which it is proposed to increase the *ad valorem* duty by 50 per cent include the following: Lathing, plating and cutting machines and similar apparatus for the wood pulp industry, rollers by industrial paper mills and fittings therefor and distributors, drying, whitening and pressing rollers with stands for the textile or paper making industry, and reenders, and hydraulic paper covering, drying, and damping machines with screw cylinders or wires, folding and stitching machines, bookbinding and the perforated envelope and bag making machines, coating, bronzing and sizing machines, and and cutting machines, damping, cutting and rolling machines, machines for fixing the paper to printing presses, and galvansmiskning. (Present duty 10 per cent *ad valorem*.)

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Italian Paper Duties.

New Customs Tariff

The new Customs Tariff for Italy contains the following in relation to paper, cardboard and products of the sulphur area (Tariff Nos 8401 to 865):

Articles	Import Duty (Gross Value)	Rate	Country of Origin
Pulp for the manual sort of paper. Mechanical sort of paper. White or coloured in the pulp.	100 kilograms	1 00	0 00
1 Not sensitive	100 kilograms	—	0 00
2 Sensitive	100 kilograms	—	0 00
3 Coloured silvered or dyed stamp	100 kilograms	40 00	0 10
4 Prepared for photography	100 kilograms	22 00	0 20
5 Not sensitive	100 kilograms	—	0 00
6 Sensitive	100 kilograms	100 00	0 30
7 The duty on paper prepared for photography sensitive is levied without deduction the weight of the immediate wrappings.	100 kilograms	30 00	0 00
8 Wall paper	100 kilograms	12 00	0 00
9 Patching paper (vegetable parchment)	100 kilograms	4 00	—
10 Packing paper and white or dyed weighing less than 100 grammes per square metre	100 kilograms	3 00	0 00
11 Of yellow straw natural glazed or not	100 kilograms	—	0 00
12 Of mechanical wood pulp, steamed, dried, of natural brown colour, sized or not on both sides weighing per square metre	100 kilograms	2 00	0 00
(a) Less than 40 grammes	100 kilograms	—	0 00
(b) 40 grammes or more but less than 100 grammes	100 kilograms	—	0 00
13 Other rough	100 kilograms	—	0 00
14 Heavy paper	100 kilograms	—	0 00
15 Glass paper	100 kilograms	—	0 00
Pasteboard	100 kilograms	—	0 00
16 Light cardboard (customary weighing less than 10 grammes per square metre) follows the classification of paper according to the 1st except inasmuch as in the case of so-called Bristol board made of various layers of sheets joined together with glue which is classified as heavy cardboard whatever be the weight per square metre.	100 kilograms	—	0 00

Ordinary	Unit	Price	Remarks
1 Not coloured or glazed	100 kilograms	1.00	0.00
2 Dyed in the pulp not glazed	100 kilograms	1.00	0.05
3 Glazed	100 kilograms	1.20	0.00
Fine			
1 Bleached or dyed in the pulp			
(a) Not sized	100 kilograms	2.00	0.00
(b) Sized in one or both sides glazed or dull	100 kilograms	2.50	0.00
2 Coloured silvered gilt or painted	100 kilograms	10.00	0.00
3 Coated with ivory	100 kilograms	10.00	0.00
4 Coated with lacquer	100 kilograms	1.00	0.00
5 Varnished	100 kilograms	1.00	0.00
6 Impregnated for hardening with cement or covered with sand	100 kilograms	1.00	0.00
7 Pulpes and balms of paper or parchment for spinning and weaving	100 kilograms	0.00	0.20
8 Paper cut past board cut into forms not rectangular or heart, and for special purposes or made past board fabric or laminated parchment of the same not held together by glue	Duty on paper not stamped, according to kind		
9 Common blank paper	100 kilograms	0.00	0.00
10 Boxes into which are fastened pulp rolls of ordinary or special board not coloured or glazed	100 kilograms	0.00	0.00
11 Manufactures of paper or parchment stamped out	100 kilograms	0.00	0.00
12 Manufactures of past board and paper not specially mounted			
(a) With ornamental illustrations or gilt or lacquered motifs	100 kilograms	10.00	0.00
(b) With other ornamental illustrations of paper or parchment	100 kilograms	5.00	0.00
13 Other	100 kilograms	1.00	0.00
14 Playing cards	100 kilograms	1.00	0.00
15 The importation of playing cards is reserved to the State			
16 Post cards illustrated			
(a) Of one colour	100 kilograms	100.00	0.00
(b) Of two or more colours	100 kilograms	200.00	0.00
17 Plaques labels etc., advertising cards and the like lithographed or stamped with pattern or decorations on paper or paste board	100 kilograms	100.00	0.00
18 Paper printed in sheets without pattern or decorations	Duty on paper not stamped, according to kind		
Maps			
1 Printed in full colour			
(a) On paper or paste board, in separate sheets or simply sewn into atlases	100 kilograms	12.00	0.00
(b) On paper lined with tissue with or without rollers of wood or bound into atlases	100 kilograms	0.00	0.00
2 Printed in Italian			
(a) On paper or paste board in separate sheets or simply sewn into atlases	100 kilograms	100.00	0.00
(b) On paper lined with tissue with or without rollers of wood, or bound into atlases	100 kilograms	100.00	0.00
3 Blank maps follow the classification of those printed in Italian			
Newspapers			
1 Printed in Italian			
(a) Unwaxed paper	100 kilograms	28.00	0.00
(b) On other paper	100 kilograms	12.00	0.00

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1 Printed in other languages Other	Livre c hier five	—
Newspapers not of recent date and only fit for waste paper are treated as packing paper, other rough		
Musics, printed or lithographed In separate sheets or simply stitched or Bondonian style (paper cover)	Free	0 7
Bound in any manner, 100 kilograms	20 00	0 7
Books, printed In Italian, loose or simply stitched or Bondonian style	Duty on the paper of which com- posed	
In other languages		
1 Loose or simply stitched or Bondonian style	Free	
2 With covers of paste board, covered or not internally with paper or with cloth and with title printed outside the cover 100 kilograms	10 00	0 7
Bound		
1 In celluloid bone, ivory mother of pearl, tortoise shell or other similar ma- terials 100 kilograms	120 00	0 7
2 With ornaments of precious metal 100 kilograms	200 00	0 7
4 Other wire bound 100 kilograms	20 00	0 7
Registers		
Loose or stitched in paste- board 100 kilograms	22 00	0 7
Other 100 kilograms	40 00	0 7
Other prints or photographs Of one colour 100 kilograms	100 00	0 5
Two or more colours, 100 kilograms	200 00	0 7
Manuscripts	Free	—

The tariff on export duties includes 5 lire box on rags of all sorts per 100 kilograms.

Attached to the tariff is a schedule of conventional rates of duty which are still in force under existing commercial arrangements between Italy on the one hand, and Brazil, France Japan Greece and Serbia on the other. Paper and cardboard wares japanned (wrushi) in the case of Japan have a conventional duty of 50 lire per 100 kilograms.

In the case of France the conventional rates and import duty are as follows for paper and books (Class V) —

Paper — Wall paper	100 kilograms	80 00
Blotting paper	100 kilograms	12 50
Playing cards and tarot cards	100 kilograms	80 00
Maps — 1 On paper or cardboard, in sheets or atlases simply stitched	Free	
2 On paper lined with fabric with or with on wooden rods or in bound atlases	100 kilograms	80 00
Unenumerated manufactures of paper or card- board	100 kilograms	70 00
1 Articles of pasteboard or cellulose stamped out, compressed or hardened with or without relief	100 kilograms	40 00
Books printed in the French language, with covers or backs of cardboard, even covered with tissue or paper and with title printed on the outside of the cover	100 kilograms	12 00

A interesting and well produced special Japanese supplement has been published by the *Manchester Guardian* printed entirely in French and copiously illustrated.

1,500 Feet a Minute.

Another Stage in "News" Machines

The new paper machine installed at the Consolidated Water Power and Paper Co., Wisconsin Rapids has started up at a speed of from 800 to 900 feet a minute. It is expected to speed it up to 1,000 feet in about six months and eventually it will be operated at its capacity speed of 1,500 feet a minute. The machine claiming to be the fastest in the world will turn out a sheet of news print trimming at 156 inches. Its length is in excess of 300 feet and it uses 164 inch wires. Work on the monster was started at the plant of the Beloit Iron Works about a year ago and the process of installation has been in progress for several weeks. A large addition was built on to the machine room to accommodate it.

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Future Pulp Supplies.

New Sources Indicated by Mr. I. J. Keenan

Having in mind the ultimate exhaustion of timber supplies for the manufacture of wood pulp Mr. I. J. Keenan, U. S. has been collating the other possible sources of raw materials. He points out in the *Scientific American* that the spruce and fir forests of the north eastern states where the American pulp and paper industry has had its greatest development have been practically exhausted and American paper manufacturers have been forced to seek supplies of this raw material in Canada. The Canadian pulp and paper industry has forged ahead of late years until its production of pulp and paper has reached enormous proportions, putting pulp and paper manufacture at the head of all the Canadian industries.

In addition to the pulp manufactured in local mills for conversion into paper a huge volume is now imported from Scandinavia and Germany as well as from Canada, the home production being wholly inadequate to meet the demands for the many kinds of paper which are manufactured in addition to news print paper.

Coincidentally with a diminishing supply of the woods which form the basis of news print paper there has been more than a normal increase of consumption of this class of paper owing to the great use of newspaper advertising on the part of merchants and manufacturers.

Cereal Straw

Although there has been a good deal of ill informed speculation concerning possible new sources of papermaking material and many futile attempts have been made to utilize various weeds and grasses waste papers etc. the experiments of Brind under the auspices of the United States Department of Agriculture in 1910 demonstrated the feasibility of converting cereal straws into a satisfactory paper pulp and commercial applications of the process or processes similar to it have already been made.

It is inevitable that paper manufacture will turn eventually to sources of pulp other than timber though for numerous kinds of paper trees will remain the preferred material. The use of cotton linters is a new and promising development. In the pulp and paper laboratories of the Forest Service at Madison Wis. it has been proved experimentally that many western woods heretofore unused or well adapted for conversion into paper pulp by the processes ordinarily employed. Spruce can be replaced for pulp manufacture by twenty or more different woods but the fact that it and trees similar to it take thirty five or forty years to reach maturity is still a hindrance to their constant use. Timber trees cannot be treated as the agriculturist treats crop plants and be sown, cut and grown again as annual harvests though some of the larger

paper manufacturers have undertaken forestry work looking to the reproduction of wood on cut over areas. The West Virginia Pulp and Paper Co. in the States and the Laurentide Co. in Canada were pioneers in conducting operations for timber conservation and ensuring future supplies of papermaking wood.

Banana Fibre

The solution of the problem is however to be looked for in another direction. For years there has been used in the manufacture of tough papers bag and wrapping papers a fibre called Manila hemp which is no hemp at all but a species of banana belonging to the Scitamineae family the genus being *Musa*. Manila hemp is known to botanists as *Musa textilis* while the edible banana of commerce is *Musa sapientum*. The leaf stalks of the various species of banana are rich in cellulose membranes which give them first place as valuable sources of paper stock and it might be a profitable undertaking to plant the waste areas of the subtropical regions, lower Florida and California with the wild banana or other fibre yielding plants not heretofore employed as raw material for papermaking. They could be treated as annual crops to yield a steady supply.

An American company has been formed for the utilisation of fibre extracted from the wild banana by a new method involving the use of a fibre decorticating machine which separates the fibres mechanically and leaves them clean of encrusting material and ready for cooking in the pulp mill. The promoters of the enterprise are confident of developing within a few years a tropical industry capable of furnishing pulp and paper mills in the United States with a plentiful supply of papermaking material. Operations are now being conducted on a commercial scale in the Republic of Panama near the Canal Zone.

Reeds and Grasses

Although reeds and grasses are raw materials for papermaking are of little importance at the present time it may be said in favour of their use that the harvest is large and the plants are less subject to decay and rot in keeping than for example bamboo banana and similar solid stalks which allow no ventilation in piling. Reeds and grasses are characterised by hollow cylinders which permit the passage of air and so obviate the decay resulting from the breaking down of vegetable matter which is more solidly massed in the bamboo and other plants named.

In reeds and grasses the cellulose membranes are less permeated with lignin and a smaller quantity of alkali is consequently required for their reduction to paper pulp than is the case with woods or plants of soldier stems. In Germany, Czechoslovakia and Roumania the stalk sheaths and leaves of *Phragmites* and *Lypha* have been used for the preparation of cellulose with satisfactory results. The root stock of *Phragmites* is made to yield a colliol before being pulped.

The reeds used in America for the manufacture of floor mats etc. might prove a good

source of paper pulp, and the waste from mat factories might also be experimented with. The dried plants are best adapted for use since the green material contains colouring matter which makes bleaching difficult and expensive. Before harvesting the plant it should be allowed to stand from the actual time of ripening until winter sets in. This permits a more thorough drying and the mechanical action of air and cold favours the rupturing and weathering of all the cell constituents. The stalk and sheaths of the plants are considered the most suitable materials for pulp on account of their higher yield of cellulose fibres, amounting to between 30 and 35 per cent.

The cells of which the fibres of reeds and grasses are composed are short rather wide in proportion to their length and thin walled. While these characteristics render the fibres unsuitable for conversion into the finer grades of bond and writing papers they facilitate and cheapen the production of the pulp for purposes for which it is suitable.

Pulp as a By-product

It is not an idle dream to look forward to a time when pulp and paper manufacturers will have abandoned their present methods of obtaining cellulose fibres and treat paper pulp as a by-product of manufacture rather than a main product. From the tree or plant a whole range of valuable organic derivatives might be first extracted leaving the cellulose cell walls or skeleton of the plant to be utilised last of all. It is the tendency of modern methods of manufacture to proceed in this way but it must be confessed that it is a far glance into the future where the paper industry is concerned.

As has been pointed out by Steinmetz, it is not so long since the coal tar produced in coke ovens was thrown away as a useless waste material. In the manufacture of sulphite pulp the waste liquor of the cooking process is regarded similarly and the great bulk of it is washed into rivers and water courses to their pollution. Only a small quantity of the available material being utilised as roadbinders, or for cementing foundry cores

and still less as a source of alcohol after fermenting the sugars contained in it. May it not be, that like the former waste product coal tar sulphite waste liquor may yet be made to yield many valuable organic chemical substances and evolve a new and profitable industry?

New De-Inking Process.

Mr George A. Leavet claims to have discovered a process whereby it is possible to reduce the price of paper 30 per cent and one which will make the world independent of the failing wood pulp supply. The process involves a method of de-inking old books and periodicals so that the paper may be used again without the addition of fresh pulp, of which according to present formulas 80 per cent is required.

Mr Joseph G. Myerson, attorney for the inventor, put it tersely when he said of the new process that "Any chemist can remove the ink." The problem has been to do so cheaply and without so spoiling the texture by chemical action or by boiling that print cannot be applied again. Mr Leavet has found a quick process which requires neither expert supervision nor new machinery and employs cheap and easily obtainable chemicals. In the past it has been difficult to wash the de-inked pulp thoroughly but this obstacle has also been overcome in the new method.

According to the inventor good book paper of all grades is now being made from pulp obtained from used stock. Stationery will also be made in the same way. The principle involved in its manufacture brings the same.

The discovery is being tried out under practical conditions. The proper selection of chemicals is one of the vital features of the new method and these are applied with soap under pressure after which the solution is washed in an improved type of rotary screen and dried in an ordinary wet machine.

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Experiences of Recent Conversions

Sir Charles Greenway Bart chairman of the Anglo Persian Oil Co and the British Petroleum Co, and one of the leading authorities on petroleum, has a very interesting statement on oil fuel and the coal stoppage in the *Compendium*. Pointing out that all over the country railways tramlines, water works and industrial plants were hastily converted to oil burning and that the results obtained were such as to give a most powerful impetus to the general use of fuel oil he says these results would have been more impressive if there had been time and opportunity to make the conversions in a more permanent and scientific manner. As it was, men at the head of public services and industrial enterprises were in many cases obliged by the emergency to make the change from coal to oil in a temporary and makeshift fashion which did not permit of securing the maximum advantages to be derived from the adoption of oil fuel either in the direction of thermal efficiency or of economic handling.

Even under the handicap of pressing necessity sufficient was accomplished to demonstrate very strikingly the advantages of petroleum and the important part it will in future play in the industrial life of the nation and of the world. Many of those who turned to oil in the time of crisis will, necessarily, go back to coal when adequate supplies are once more assured, but a large number of others, will, undoubtedly, continue to use oil as the experience they have gained will have convinced them that for many purposes and in many parts of the United Kingdom it is more economical when all the factors entering into the production of power are taken into account apart from its cleanliness and facility of handling.

Oil Cannot Replace Coal

This is a good time to point out, Sir Charles continues, that a great deal of nonsense has been talked in the public Press about oil definitely and completely taking the place of

coal. This is of course, absurd, and no practical oil man entertains any such notion. The requirements of the world for fuel are so greatly in excess of anything that the present oil production of the world could meet that it is nonsense to speak as has been done of the 'doom of coal' having been sounded. What oil men do claim—and even now the claim is being justified—is that in many departments of industrial life, petroleum is far more efficient and economical than coal as a source of heat and power, and that such uses of petroleum will gradually become more varied and extensive. In the shipping industry, for instance it is already clear that the oil driven vessel is rapidly forcing the coal burning one from the seas and that large supplies of oil are essential to maritime supremacy.

The one thing which could prevent petroleum taking its proper place in the industrial activity of the world is a failure of supplies. And here I think there is no ground whatever for the pessimism which has lately become fashionable with a certain group of oil critics. Indeed the facts of the case are completely at variance with the deductions drawn from them. We have heard a great deal of late about the rapidly approaching exhaustion of well known fields but the production of these fields has gone on increasing at such a rate that it has even been found necessary to put a check on it. This being the case it is pretty obvious that the clamouring warnings about the imminent failure of the sources of supply in Mexico and in the United States have been inspired by other motives than any real fear of a falling off in supplies.

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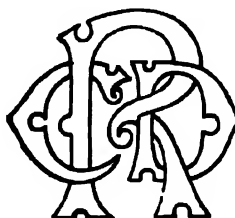
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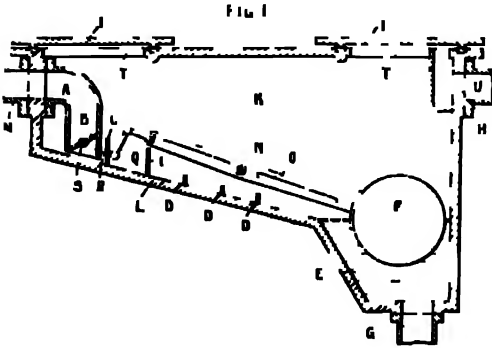
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The Froth Trouble.

According to an invention by Mr James R B Fearnley, paper mill manager of St Mary Cray Kent, it is proposed to prevent the formation of froth by submitting the finished and diluted pulp to the action of a vacuum of suitable strength, preferably in a vacuum chamber and preferably immediately before it flows on to the wire of the papermaking machine. When a vacuum chamber is used a continuous introduction of the pulp into the chamber and a continuous removal of the pulp therefrom may be obtained in many different ways.

According to one method the vacuum chamber may be placed at a suitable height



and the pulp may be admitted and discharged by means of a siphon arrangement. The rate of flow through the apparatus may, if necessary, be regulated by suitable automatic valves controlling the admission or the discharge pipe or both pipes.

According to a second method the pulp may be fed into the chamber and discharged therefrom by two separate pumps which may be coupled together in order to reduce the power required for driving pumps. The coupling of the pumps may be such that the suction of the vacuum on the outlet side be counterbalanced by the pressure of the atmosphere on the inlet

side so that theoretically the power required is only that necessary for circulating the pulp.

According to a third method the pulp may be fed into the vacuum chamber by atmospheric pressure and caused to flow through an automatic valve which may be controlled by a float or floats so as to maintain a more or less constant level within the vacuum chamber. The pulp may be discharged by a suitable pump which may be of the rotary type and the discharge may be regulated in any suitable manner to maintain the uniform flow required for the papermaking machine.

Or the methods mentioned above may be combined either in their entirety or as regards particular features thereof. In all cases the vacuum in the vacuum chamber may be maintained by a suitable vacuum pump.

The pulp may enter and pass through the vacuum chamber in a solid flow, or may by suitable means be caused to assume the form of a spray or a thin film during part or the whole of its passage through the chamber in order to facilitate the disengagement of the bubbles.

In the apparatus shown, pulp from a strainer flows through a pipe M into a chamber K under sluices C, and tumbles over baffles D into a well E the supply to which is controlled by a valve B operated by a float F. Vacuum is maintained by pumps connected at H. A pump connected at G supplies the paper machine.

Cigarette Paper from Sulphite.

According to *Papier Zeitung* a patent has been granted to the Mannheim Waldhof Co for the manufacture of cigarette paper from sulphite cellulose. Hitherto it has been impossible to employ this form of pulp for cigarette paper.

RESUMPTION of work at capacity at the plants of Price Bros and Co and the Abitibi Power and Paper Co's plants is regarded as an encouraging development in the news print situation in Canada.

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Owing to unforeseen circumstances there has been some delay in the re-decoration of the Sheepshanks Galleries of the Victoria and Albert Museum and rather than leave the Galleries unoccupied for a further space of time, it was decided to arrange a purely temporary exhibition of wall papers and posters which is now open to the public in Rooms 95-99.

Of special note among the wall papers is a French set, of the Empire period, of 25 sheets representing a continuous picture of a hunting scene, making a run of 44 feet for the complete papering of a small room. This was given by Sir William Ingram Bart to whose generosity is also owing a particularly fine series of nine panels of a painted Chinese wall paper. There are other examples of Chinese papers and from these one passes to examples illustrating the history of British papers from the early 16th century to the designs of William Morris, Walter Crane and other modern artists.

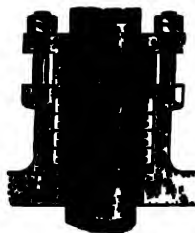
The posters which represent a selection only from the large collections now in the Museum are arranged to show the work of different countries, Great Britain, the United States, France, Germany etc. The British section contains a very early example of a poster designed by Walter Crane in 1886, notable work by the Beggarstaff Brothers and Aubrey Beardsley, who at the start set a very high standard for English poster art and groups of work by living artists such as Frank Brangwyn and Spencer Bryse. A recent large acquisition has enabled the Museum to show a remarkable series of early French posters by well known artists, such as Chéret, Steinlen, Toulouse-Lautrec, Grasset, Mucha etc. In every country posters played a very prominent part in the history of the war, and were used for every form of propaganda. British and French war posters are well represented, among the latter being famous works by Steinlen, Faivre, Poulbot, Willette, Roll and others, while special interest attaches to chosen examples of German posters which hold their own by sheer force and efficiency.

Mr Dard Hunter whose interest in paper-making is world-wide and who is well known in this country has got together an interesting exhibit of hand made paper appliances which will form a permanent feature at the Smithsonian Institution in Washington. The exhibit occupies a case in the Division of Graphic Arts and represents examples of laid moulds of different sizes which have been used for making hand made papers in old established mills in Europe, moulds which have been used for forming the light and shade watermarked portraits and the different dies etc. used in making these moulds. Many specimens of fine watermarks are shown, as well as the actual woven marks in metal on which the samples of paper were made. There are also specimens of paper with watermarks dating from the middle of the fifteenth century to the present show, 19 the different stages of developments that took place in the laid and wove moulds during that period. Deckle edges of all varieties are shown, also illustrations and photographs of old mill interiors beating engines etc.

Paper

The report on the trade and economic conditions of the Canary Islands by Mr I. J. Morris, H.M. Consul at Tenerife and issued by the Department of Overseas Trade shows that paper and stationery were imported through Tenerife during last year to the value of £68,565 (tons, 732). Of individual importers Norway headed the list with £15,400. The United Kingdom sent £9,605 worth, Spain £8,900, Holland £5,830, Germany £4,130 and France £200. Other countries were represented by £24,500.

CANADIANS interested in paper manufacture are making great use of the slogan "Canadian made paper."



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Trade Notes.

EDITORIAL NOTICE—The Editor will be pleased to receive items of News, Personal and General, Company Reports or Newspaper Cuttings of interest to the Paper Trade

MATHER AND PLATT LTD—An interim ordinary dividend of 3 per cent, free of tax

UNITED ALKALI—The directors have decided to defer consideration of payment of any interim dividend until the meeting of the board in October

BROWN STEWART AND CO LTD—The accounts of Brown Stewart and Co for year ended April 30th, 1921 after providing £13,754 for depreciation, deducting £6,500 for interim dividends paid on ordinary and preference shares and including £47,500 brought forward show a credit balance of £6,201 to be carried forward

HARTFORD PAPER MILL CO LTD—The general meeting held on Tuesday was adjourned as the accounts for the year ended April 1st are not yet completed owing to negotiations which are taking place in connection with a proposed amalgamation in which the company is interested. The directors hope to submit details of the suggested amalgamation at an early date

LIABILITIES are to be made to secure the passing of the Safeguarding of Industries Bill before Parliament is prorogued in August

The wages question in the paper industry is now definitely settled by the acceptance by the unions of the recommendations made by the Joint Industrial Council

The death has taken place at Snodland Kent of Mr Wm Chas Randall at the age of 70. From boyhood he was employed at the Snodland Paper Mills of Messrs C Townsend Hook and Co and his steadfast attention to duty and kindly disposition gained him the esteem of his employers and fellow workmen. On the occasion of the funeral wreaths were sent by Messrs Hook directors and staff of C T Hook and Co, Mr and Miss Clegg and Mr and Mrs S H Dedrick

A **BREAK** with the past has been caused by the death of Mr William Grace, which took place in Sunderland in his 96th year. The deceased gentleman who in later years had earned for himself the title of "the grand old man" of the Brotherhood Movement was in early life a papermaker being employed at a mill in Kent, at a wage of 15s per week. From Kent he went to Aberdeen and was for 20 years manager for one of the largest mills in the country. Mr Grace had the distinction of making the first sheet of paper produced by machinery and was entrusted with the production of writing paper for Queen Victoria. The deceased's son, William Grace, has been employed at the Ford Paper Works, Sunderland, for forty years, and is quite strong and well, notwithstanding his 68 years

THERE is a general slight recovery of orders in the paper trade

PAPER mills generally have started up again now that fuel is available once more full time however has not yet been resumed in many cases, a paucity of orders still being experienced

JOHN GIBLIN of Bury has been admitted to the Infirmary suffering from injuries to his back and right side. Giblin who is employed as a labourer at the paper mill of Messrs Yates Duxbury and Sons, Ltd, received his injuries through a fall

THE Port of London has recently admitted printing paper from Belgium and Austria 245 reels of wrapping paper from Germany, 46 reels of packing and wrapping paper from Czechoslovakia and varying quantities of paper from Finland

THE number of wholly unemployed on the live registers of the Employment Exchanges throughout the United Kingdom on July 15th was 2,020,300 being a decrease of 102,000 compared with the previous week

WHEN the Railways Bill, as amended in Committee came before the House of Commons for consideration on Wednesday, the Speaker on being appealed to ruled that the clause to enable railway companies to engage in road transport was outside the scope of the Bill

A **BIT** of papermaking history is recalled by the death of Mr Henry Ingham, aged 66 of Nottingham and formerly of Ramsbottom. His father the late Mr J B Ingham of Shuttleworth was in business as a paper manufacturer and ran the old Shuttleworth paper mill. About fifty years ago he built the Ramsbottom paper mill

MANCHESTER SHIP CANAL—The net revenue for the half year ended June 30th shows a substantial decrease as compared with the corresponding six months of last year. The general depression in trade and the coal strike are mentioned as being responsible for this result. In the current half year, however, the outlook is better

At a meeting of the Imperial Conference a resolution was passed recommending that a conference of representatives of the patent offices of His Majesty's Dominions should be held in London at an early date to consider the practicability of instituting a system of granting patents which should be valid throughout the British Empire

IN our last issue we mentioned the dissolution of partnership by mutual consent between Mr R C Ridley and Mr K G H Berlin paper agents and merchants, 3 Laurence Pountney Hill, London. We unfortunately omitted to say that Mr Ridley will continue trading in the same capacity at 3 Laurence Pountney Hill under the style of Reginald C Ridley. Mr Ridley is well known in the paper trade having had 17 years in this connection in London

THE seamen's strike in Norway, which had lasted for nearly two months, has been settled

Harry

A Live Anti-Waste Candidate for North-west Camberwell

Mr Harry Becker who has been asked to stand as the Anti-Waste Candidate in opposition to Dr Macnamara in North-west Camberwell at the next general election will put up a very good fight. His many friends in the paper trade are taking a very earnest interest in his candidature, and his victory will be exceedingly popular. This is not Mr Becker's first essay as a Parliamentary candidate, because he made a gallant fight in



Photo W. S. Stuart Richmond

MR. HARRY BECKER

Anti-Waste Candidate for North-West Camberwell

Bermondsey at the last election under the banner of the discharged soldiers.

Mr Harry Becker is a well known figure in the paper trade and although only 29 years of age he has had a wide business experience not only in this country but abroad. He was educated at Uppingham and has travelled extensively. Following a tour in France and Germany he started in business in this country, but his energy and enthusiasm called for wider fields to conquer and he went over to America where he acted as salesman for the Parsons Trading Co. Early in 1915 however he returned to this country with his wife and

daughter, six weeks old, and joined the army for war service. He served in France for three years as a private.

As most of his friends know, Mr Harry Becker is now managing director of the French Paperstock Co., Ltd. and it is by his energy and enthusiasm that this important business has been built up. A man of enormous energy and business initiative, he is known to be one of the most successful paper salesmen in the country, possessing all the characteristics of a born salesman—urbanity, initiative, determination, alertness, and the faculty for quick decision.

The premises at 24-30, Bermondsey wall are well adapted for the large business which has been created. Important connections have been made both at home and abroad in paper, strawboards and waste papers. The company, in fact, is one of the largest importers of strawboards in this country, and it performs a very useful service in providing stocks for printers and box makers. Large stocks are held at Bermondsey and there are admirable facilities for the reception and despatch of goods. The site which is on the river front is one of the most commodious on the Thames, having four wharves and extensive warehouses while ample stocks can be kept ready at hand. Everything in the way of paper and stationery is handled, including krafts, browns, supercalendered and M.F. printings, bag papers, special French papers and so on *ad infinitum*. Altogether the company carries large selections of paper and strawboard. Among the lines handled by the French Paperstock Co. is the well known Brechtstock Bond special watermarked paper. Ancillary businesses carried on include the manufacture of paper bags, the baling of waste paper by a 100 ton baling press and lighterage work. A specially large business is done in news print, and some big contracts have been placed with the company. A fleet of motor cars is maintained for the rapid transit of paper stocks, while the free access to the river enables goods to be either received or despatched across the seas with ease.

Mr Harry Becker is an attractive personality and admiration for his business capacity is shared alike by his large staff and a wide circle of acquaintances in the paper trade. Anything that he takes in hand has to "go." It is Mr Harry Becker's intention to follow a political career and in this direction his enthusiasm and other gifts are likely to carry him far.

The Income Tax Payers Society has been formed with the object of protecting the rights and privileges of income tax payers. One of the objects of the Society is to simplify the machinery of assessment by protecting the taxpayer against the duplication and complexity of forms. Among the members of the General Council are Sir J. J. Biddleley, Sir H. Birchenough, Sir Rowland Blades, M.P., Viscount Burnham, Sir F. Newnes, Sir A. Spurgeon, Sir A. Tuck, and Sir W. A. Waterlow.

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MANCHESTER and DISTRICT EXPERIENCED REPRESENTATIVE with sound connection in Printings and Wrappings required immediately by Manchester firm, wholesale paper merchants salary and commission. Write Box 15216

WANTED in London for Wholesale Paper Trade a JUNIOR REPRESENTATIVE with connection among Wholesale Paper House and Wrappings, etc. —Apply with full particulars as to terms, etc. —Box 15230

YOUNG MAN wanted with a good knowledge of Paper Boards one who can test the various qualities and properties of Board. State age, wages expected, where previously employed and if disengaged. —Box 15242

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In the matter of Deed of Assignment for the benefit of Creditors, executed on the 6th day of January, 1921, and registered on the 15th day of January, 1921, by ARCHER SAMUEL BOOTHBY, trading at 11, Queen Victoria Street in the City of London, Paper and String Merchant

THE Creditors of the above named Archer Samuel Boothby, who have not already sent in their claims as requested, on or before Thursday, the 25th August 1921, to send in their names and addresses and particulars of their debts or claims, to me, John Joseph Valentine Taylor of 4, Fenchurch Avenue, in the City of London, Chartered Accountant, Trustee of the said Deed, or in default thereof they will be excluded from the benefit of the deed and proposed to be declared

Dated this 22nd day of July, 1921

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FRIDAY JULY 29 1921

"News" Imports

THE imports of news print into this country
in June show a big jump in the case of Fin-
nish paper, which amounted to 5,200 tons out
of a total receipt of 8,300 tons, exclusive of
Newfoundland This is the highest point so
far reached by Finland, who in June last year
sent 3,850 tons to the United Kingdom As
against the Finnish figure, we received 1,795
tons from Sweden in June, 1,042 from the
Netherlands, and 244 tons from Norway In
the corresponding month last year Sweden
sent us 1,850 tons of news print, Norway 2,700
tons and the Netherlands 176 The total re-
ceipts of this class of paper (exclusive of New-

foundland) were 200 tons less in June than a year ago. Norway, it will be noticed, suffered the greatest drop, while Finland and the Netherlands made up the difference.

* * *

Production and Cost

MANUFACTURERS and those who are identified with the industries of the country are greatly concerned as to the future welfare of Great Britain. It is not only that our own position gives cause for apprehension but the rate at which other states are recovering ground lost through the war is so much greater than here that, unless something is done to improve production and lessen cost, we shall find ourselves behind in the race for commercial supremacy. In Belgium and Germany, for instance, the workpeople have settled down to work in real earnest. According to a recent visitor to those countries, the workpeople are giving not merely a normal day's work, but a day and a half. They are evidently very conscious of the need for re-establishing their trade and commerce and are not sparing themselves any more than they did during the war in rehabilitating their country from the industrial standpoint. This gentleman found things very different over here. Our workpeople, he says, are making nothing like the effort of their late enemies. If this is so, then it is time there came an alteration. So grave is the situation that a meeting of business men, representative of all sections of finance, trade and industry was held at the Mansion House, London, this week, to consider the grave economic situation which now faces the nation, with a view to impressing upon his Majesty's Government and all classes of the community the imperative need of increasing production and reducing expenditure, so that the wealth annihilated by the war may be restored. It is believed that with the exercise of economy, both personal and public, and greater industry on the part of everyone, the credit of the nation can rapidly be restored.

* * *

Germany Making Headway

EVIDENCE is forthcoming from many directions that Germany is making great headway in her effort to restore her industrial and commercial status. Mr. Garvin, in the *Observer*, remarks cryptically, "Everyone will know soon enough that Germany is beating us again and why. She has improved her whole national organisation for economic victory. We have scrapped ours." Then we have it on the authority of Mr. W. A. S. Hewins that "there are countries which are almost up to

their pre-war trade, whereas Britain is only up to 31 per cent." He asserts that unless we have a definite trade policy, and get round the corner, we will come precious near to bankruptcy. These statements are confirmed by information forthcoming as to the paper industry abroad. British paper workers, of course, have been sadly handicapped by the coal strike. All the more reason, therefore, why the employees in the British paper mills should do their part in maintaining the ascendancy of the industry. It would be a sad reflection, to use a trite catch phrase, if we won the war only to lose the peace.

* * *

Real Co-operation

BUT we are not likely to do that if only the British working people will be true to their traditions. We are, perhaps, apt to be a little too critical of ourselves, but that does no harm, quite the contrary. At the same time we may derive some consolation from the present outlook, and the remarks of Dr. Macnamara, the Minister of Labour, emphasise this point. "All over the country employers and employed in numberless industries are sitting down together in frank consultation and conference and are making agreements which avoid stoppage of work," he said, and added, "As Minister of Labour, I cannot overstate my admiration for the spirit of mutual self-respect and intercourse with which these difficulties are negotiated and brought in many industries to a successful conclusion by agreement without strike. That is the way out. What we want now is the determination not only that the revival in trade shall not be hampered by more strife, but that it shall be taken advantage of to the fullest extent." Mr. E. W. Randle, in the *Industrial League Journal*, emphasises the need for real co-operation in this paragraph: "Low cost of production for export can only be attained by labour giving more work for their wage, the manufacturer and trader being content with moderate profit, the banker providing cheap money, and the Government relieving the burden of taxation. Given these, the wheel begins to turn, our exports are in demand, our manufacturers once more grow busy, unemployment diminishes, and the Government revenues automatically grow. If labour and capital will not co-operate in a spirit of self-sacrifice both equally suffer and the inadequacy of trade means unemployment for labour and non-productivity of capital, without which the nation's expenses cannot be met." In order that the best results may be secured it

follows that each party to the contract must do his utmost to fulfil it. Otherwise the scheme naturally fails. So if British industry is to hold its own each unit in the community must make the full contribution demanded by the situation.

The Wood Pulp Trade.

Reporting on the position of the wood pulp trade, the official organ of the Norwegian Chamber of Commerce London says: The situation has improved materially since last month, inasmuch as the coal strike has been settled and most of the paper mills have started up again with part production. This will very soon reduce considerably the stocks of pulp and especially the paper mills of the London district making news have commented already to import fair quantities of pulp against existing contracts. By the time the holiday season has passed, during which period July-August there is hardly ever any business in pulp we shall probably see a fair amount of new business begin in September. The present more or less nominal prices vary a great deal. The Norwegian and Swedish are fairly equal but Finnish quotations are a good deal lower with German and Czechoslovakian still cheaper.

Swedish Timber Troubles.

In a report issued in Stockholm on the situation in the Harna sands sawmills district it is said that many companies are requesting the postponement of payment to the Government for the purchase of timber from the State forests. Sawmills and cellulose mills are obliged to close down and now in addition co-operation between the timber exporters has broken down and the selling society has been dissolved, so that chaos now rules on the market, says the Stockholm correspondent of the *Daily Telegraph*. A few cellulose mills are still running but it is only a question of days when they will close down and the production be considerably reduced. The timber yards consequently are packed full of goods which daily lose in value.

DEPARTMENT OF OVERSEAS TRADE. For some weeks rumour has been very busy with the future of the Department of Overseas Trade. The life of the Department has been short, but in its chequered career it has again and again been the subject of investigation and now it is said its activities are to be severely curtailed in the interests of economy, says *The Times* (Trade Supplement).

Personal.

VISCOUNT BURNHAM has given 65 acres of woodland adjoining Burnham Beeches to the Corporation of London for the enjoyment of the public in memory of his father. The woodland is to be known as Fleet Wood and is worth about £10,000. At Thursday's meeting of the City Corporation a vote of thanks for the munificent gift was passed.

SIR T. VANSITTART BOWATER and the Right Hon. C. W. Bowerman M.P., attended the annual banquet of the London Chamber of Commerce on Tuesday at the Connaught Rooms the Prince of Wales being the chief guest.

MR. S. N. KIRCHEN has resigned the position he has held for the past six years as Manchester representative of Messrs. Palmer, Flygt and Co. Ltd. London. Prior to joining the firm he was for thirteen years with Messrs. W. G. Taylor and Co. Ltd. London. He has now taken full control of the business of Messrs. G. L. Davies and Co. 5 Cross Street Manchester, suppliers of paper and paper making materials.

MR. W. C. WHITAKER of Messrs. Whitaker and Co. Castle Chambers Market place Bury, has recently returned from a visit to the works of Messrs. Hurry and Co. the well known papermakers engineers Belgium for whom his firm act as sole agents in this country. He also paid a visit of inspection to several of the Belgian paper mills.

MR. J. A. KIDD, with the air of a Illegovan in his lungs has been renewing his acquaintance with old friends in London this week.

We regret to learn that Mr. I. I. Armstrong, secretary of the Employers' Federation of Envelope Makers and Manufacturing Stationers met with a cycle accident last week and injuring his knee badly.

MR. ALBERTUS HOLT, secretary of the Darwen Paper Mill Co., and Mrs. Holt have just celebrated their silver wedding and have received the congratulations of a troop of friends.

MR. W. ADAMSON and Mr. Harry Kay (Chas. Walmsley and Co. Ltd. Bury) joined the Technical Section of the Canadian Pulp and Paper Association in a visit to Three Rivers and Cap Madeleine.

MR. G. C. PITCHER, chief of the Forestry Service of Quebec has returned to Canada after a two months' trip in France, Belgium and Sweden studying forestry organisation as the guest of the Canadian Pulp and Paper Association.

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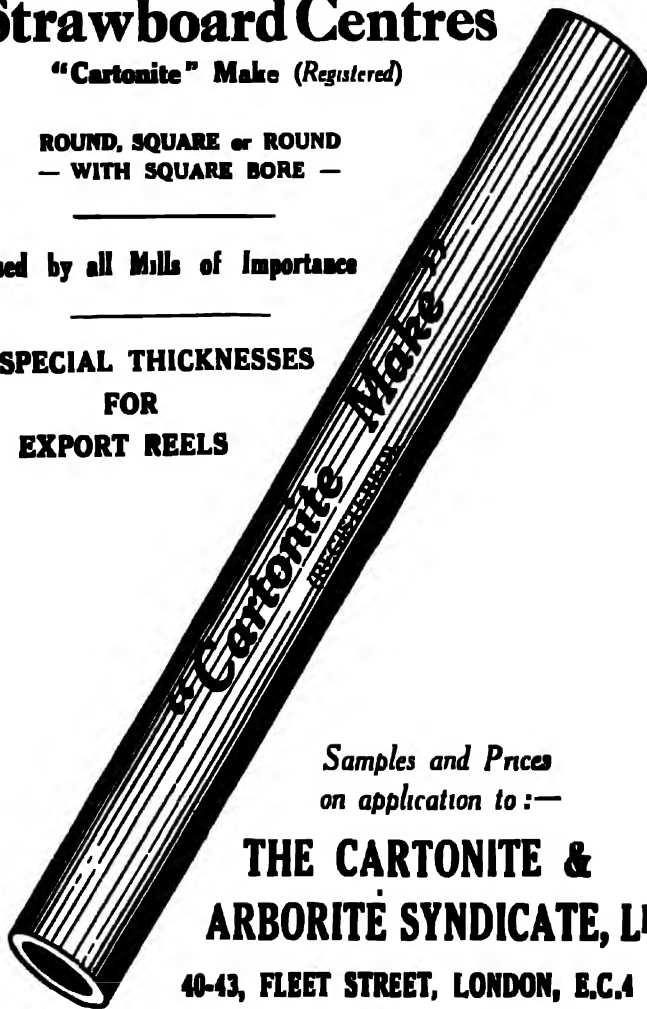
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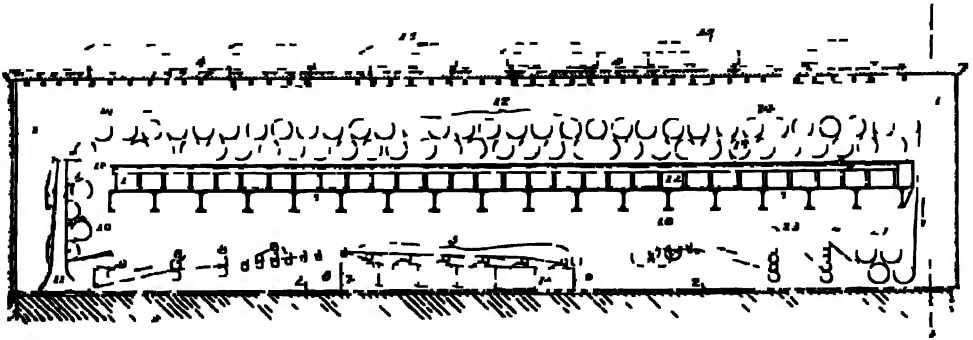
"Cartonite" Strawboard Centres are made on Special Machinery, for which Patents have been granted in the chief countries of the World

A Drying Arrangement

An object of an invention by Mr Frank P Miller is to reduce the ground area usually required by a papermaking machine and this is accomplished by placing the drying cylinders on a floor, specially constructed above that on which are the making mechanism and the calendering rolls and cutters. It has been found by the arrangement described that there can be saved about 50 per cent in the length of the building and that the paper can be protected while it is being formed, as well as the finished paper from

dryers 10 to the drying cylinders 13 and 14, around these in the direction of the arrow, and then downward through the opening in the floor at the other end to the final cylinders 21, calendering rolls 22 and 23 and cutting machine 18.

The floor 3 of the second storey is made in three sections the middle one of which, under the dryers 14 is lower than the two outer sections providing vertical spaces through which fresh air from the lower floor can pass upward to the dryers and thence laden with moisture out through the ventilators 15. The vertical open spaces in the second floor make it possible for the foreman to stand at any point on the first floor and see the paper passing through the drying apparatus as the under side of the



moisture from the dryers, and that the moisture can be carried off as soon as formed.

The figure shows a longitudinal sectional view through a building having the cylinder vats 6 and screens 7 of the papermaking machine 5 located on the ground floor 2. The paper passes to a series of press rolls 8, then to guide rolls 9, and then to the first series of drying rolls 10 vertically arranged on a standard 11 at one end of the building extending through the space in the floor 3 of the second storey. The paper passes upward through the

drums are exposed. Other advantages are that the foreman can watch the forming apparatus as well as the finished product as the two mechanisms 5 and 18 are arranged close together and a comparatively short main driving shaft is required.

MR EDWARD CARTWRIGHT a retired master printer and bookseller has passed away at Wimborne street, Dowlus, at the age of 78 years.

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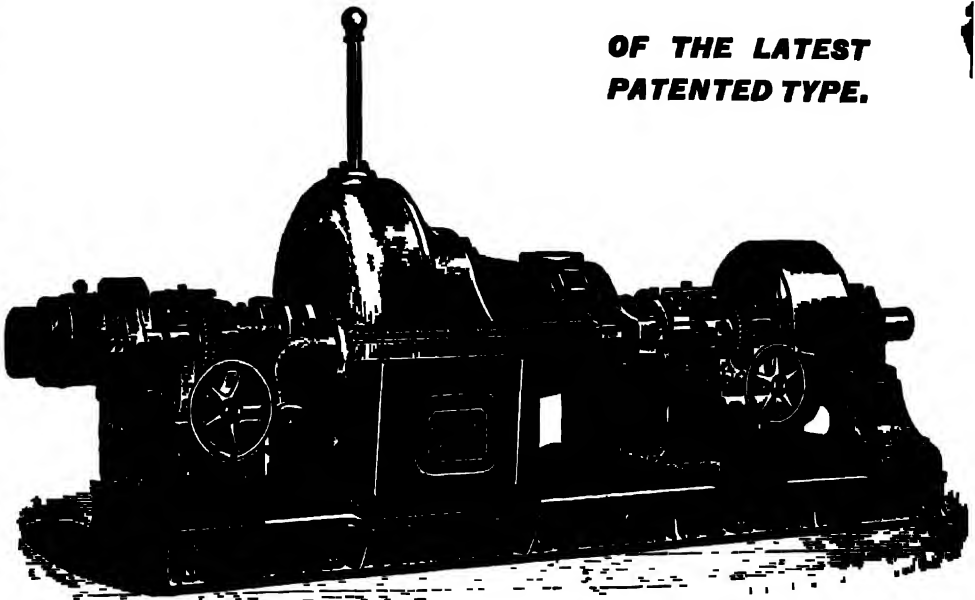
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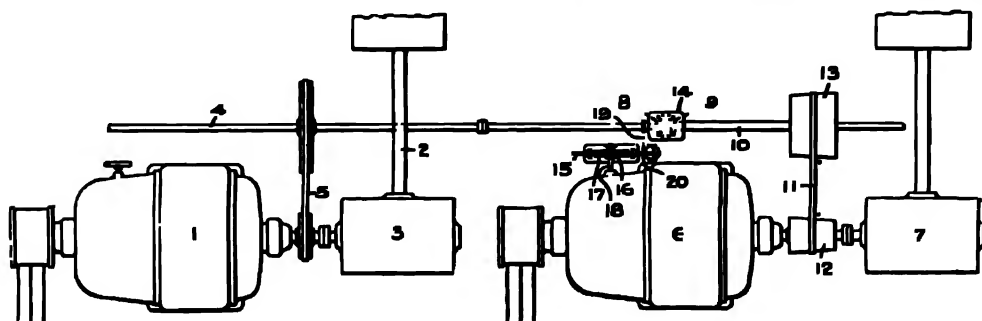
Segregated Drive for Paper Machines

The electro mechanical arrangement covered by an invention by Mr. Newton Shuttleworth is designed to hold in fixed but adjustable speed relationship the motors driving the various sections of a paper machine, so that individual adjustment may be made to accommodate different conditions of operation but when once properly adjusted the various parts will maintain the speed relationship fixed with a high degree of accuracy.

In the accompanying illustration is shown a diagrammatic plan view of the driving mechanism of a part of a paper machine, 1

The speed is controlled by a master shaft 4, driven by belt 5 from the master motor 1, the shaft 4 running lengthwise of the machine and running always at a uniform speed as determined by the motor 1. Opposite each other sectional drive motor, as 6 there is a sleeve or quill 10 arranged to rotate about the master shaft 4 and driven by belt 11 from motor 6 this belt passing over cone pulleys 12 and 13 to provide adjustment of the speed of sleeve 10 relative to the motor 6.

Shaft 4 carries gear 8 and sleeve 10 carries gear 9 of a differential mechanism, the planet of which is carried in a casing 14. When the two motors are running in the proper speed relationship to which they have been adjusted, the casing 14 will be stationary. Any tendency of the motor 6 to depart from the correct



representing an alternating current commutator motor driving a section of the machine through the main shaft 2 and gearing 3, 1 being assumed to be the master motor to which the speed of all other motors is to be adjusted. 6 is another motor driving another portion of the machine through a shaft and gearing 7. There may similarly be other motors which will drive other sections of the machine, all being regulated as 6 is to have the proper speed relationship to the master motor 1.

speed, as determined by the master shaft 4, will result in a movement of the differential casing 14, and the casing will transmit its motion by chain 19 to the shaft 15 which carries a worm 16 meshing with a worm wheel 17. When the worm wheel 17 is rotated, it adjusts the position of the brushes on the commutator of the motor in one direction or the other to increase or decrease the speed of the motor 6.

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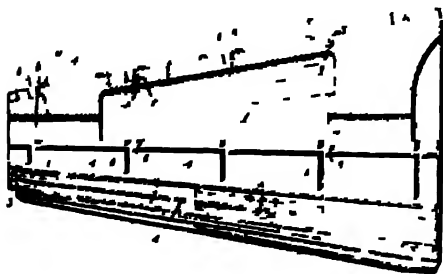
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Beating Engines.

Bandless Roll Arrangement

An invention by Mr Alfred Doiman aims to produce a beater or Jordan roll and bar of simple construction in which the bar may be firmly held in correct grinding position in the roll without the use of bands and in which each bar may be readily and quickly put in position in the roll and removed without disturbing or taking down the remainder of the roll.

As shown in the figure the plug or core 1 is a tapered hollow metal cylinder having an outer surface or rim 2 with a plurality of



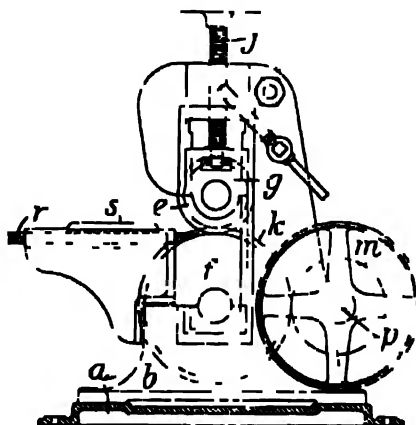
longitudinal grooves 3, between which are left projecting ridges 4, the grooves affording retaining seats for the grinding bars 5. The plug is provided with peripheral grooves or slots 6 which intersect at right angles the bar holding or retaining grooves 3, these peripheral positioning grooves extending around the surface or rim of the core or plug and being of sufficient dimensions to receive a locking projection or ear 9 formed on the bar. The grooves are widened at one side of their bottoms to form recesses 7, with locking shoulders 8.

In assembling the bars are dropped in the longitudinal grooves 3 and the projections or ears 9, enter the grooves 6 and the bars are then driven with a suitable tool toward the right of the figure which causes the ears 9 to

enter the recesses 7. As these recesses face in the direction of the course of the work through the machine, the bars are assisted in maintaining their position by the pressure of the work and a very rigid structure is produced.

Embossing Paper, etc.

An invention patented by Mr S A Orton relates to a machine for embossing plain or printed paper, leatherboards, etc. to produce stippled or grained effects. It is constructed so that it can be attached to a bench and consists of a base a to which are secured standards b in which are mounted a paper bowl 1 and an engraved steel roller c driven from the shaft of the bowl 1 and mounted in adjustable



slides g controlled by screws j to vary the pressure of the upper roller. The base a is fitted with holes for receiving bolts for securing the device to a bench. The bowl 1 is driven by spur wheels k, m on a shaft p driven by a belt which may engage a fast or loose pulley on shaft p. The sheets are fed to the embossing rollers by the aid of a feed board r fitted with adjustable side guides.

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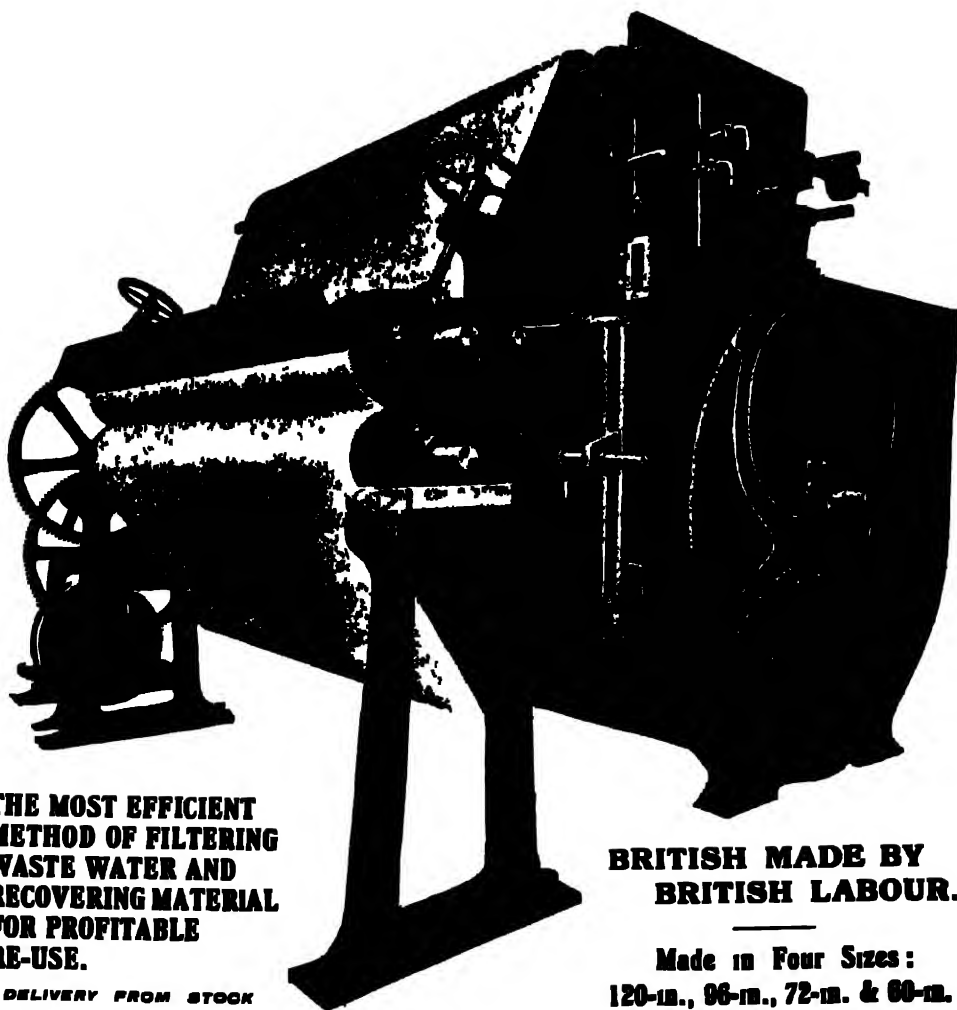
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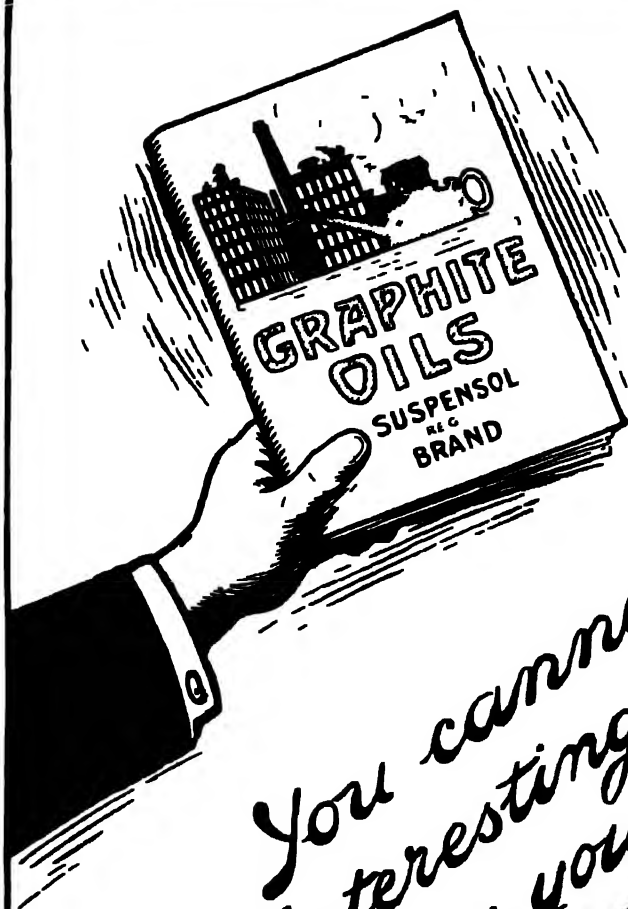
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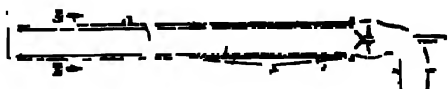
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Drying

A British patent has been granted to Mr C J Grace for an invention relating to the drying of china clay etc

China clay and similar plastic material is dried in apparatus comprising a filter and a heated tubular drying chamber connected to or in close conjunction with the filter through which the material is forced by a reciprocating rammer, screw pump etc The apparatus may be arranged to discharge the clay in a warm moist condition drying being completed by the contained heat either in a vacuum chamber or at normal pressure In

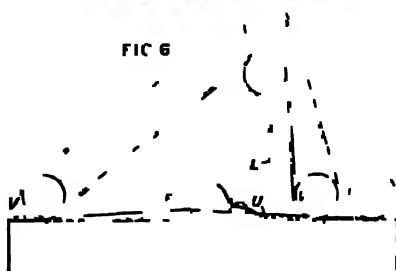
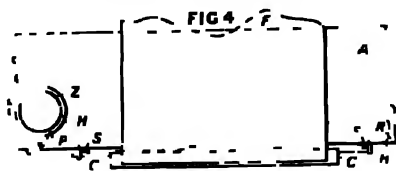


the apparatus shown the sludge is supplied under pressure by a pump or under its own head and is carried along a filter 2 lined with porous material 3 and having an outlet 4 for the filtrate and through a jacketed heating chamber 9 provided with a spring pressed outlet valve 12 The material as it solidifies in the filter is thrust forward by a pair of pivoted vanes 5 on a reciprocating rod a further quantity of fluid entering through holes 8 in a valve 7 on the rod during its backward movement Alternatively, the caking clay may be removed by a screw conveyor or by rotary stirring blades two or more heating chambers being arranged in parallel

Envelopes.

An invention patented by Mr A F H Payne relates to means for making string bearing and like strips such as are described in Specifications 123 678 and 128,174, for opening envelopes, etc the string or like flexible

substance is held in tension and the slip material is folded thereon Fig 4 shows an arrangement for dealing with cut lengths of material F, comprising a table A having a hinged extension C for folding over the projecting edge of the material F The string H is stretched adjacent to the hinge before or after the material is in folding position The string is drawn from a bobbin L held by a detent pawl P and is secured at the free end in a clamp R, the intermediate portion passing through eyes or other guides S beyond the ends of the hinged folder C The material may be fed between belts or tapes and means



may be provided for applying or moistening adhesive Fig 6 shows an arrangement for dealing with a continuous ribbon the lengths of slip being defined by perforations or otherwise The ribbon F is drawn through a longitudinal folder V and the string is led into the fold by a guide U A looping device L may be provided for drawing out the string at intervals corresponding to the lengths of slip Both margins of the ribbon may be dealt with at the same time to produce the slips in pairs as indicated by the duplicate parts shown in dotted lines

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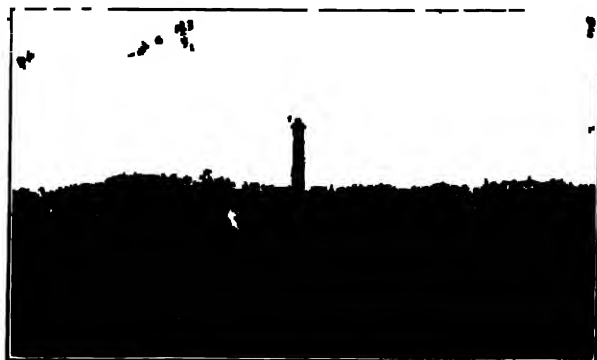
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Riordon Pulp and Paper Co.

An all day meeting on Tuesday of the directors, bankers, and creditors interested in the Riordon Pulp and Paper Co failed to find a solution of the company's difficulties. Further meetings will be held in the hope of effecting a settlement.

It is understood, says *The Times Toronto* correspondent that the call upon the share holders for the money necessary for the immediate objects of the company failed to meet with a satisfactory response. Three million dollars (£750,000) out of the \$5,000,000 (£1,250,000) required is in sight but that is insufficient to meet the obligations of the company and carry out a policy of readjustment. A new plan for re-financing the company is now under consideration and the officials of the company declare that in this they have the co-operation of all concerned. A committee of creditors co-operating with the directors, is advising the creditors that nothing is to be gained by extreme action until a fair opportunity has been allowed to determine whether or not the new plan for financing the company can succeed.

The inventories of the finished product which some months ago showed as much as 20,000 tons of pulp on hand have now, it is understood been reduced to 6,000 tons, and bank loans have also been slightly reduced.

A letter has been issued to the creditors of the Riordon Pulp Co by Mr. Montagu Davy, chairman of the Committee of Creditors, announcing the failure of the plan to raise the necessary money by an appeal to the shareholders to buy the bond issue, but urging the wisdom of precipitate action or any legal proceedings whatsoever until the new plan for financing the company is announced.

The general opinion is that liquidation is improbable but that the bondholders will obtain possession and accept responsibility for the re-organisation and future conduct of the business.

At present prices the Riordon stock issues on the market have a valuation of only \$1,042,000 (£260,500) against the par valuation of \$43,000,000 (£10,750,000) and the market value at top prices of \$19,550,000 (£4,887,500). Last year the old Riordon Common stock which is now down to 4 reached 22½ while the new Riordon Common stock, which is now down to 6, was as high as 41.

When buying some notepaper at my stationers yesterday I remarked that it lacked the usual watermark. 'Yes sir,' said the obliging shopman 'that's on account of the drought you know, sir' - C. J. A. in the *Daily News*.

A STEAMER has arrived in the Fees with a cargo of 10,000 tons of American coal. Several other vessels are on passage to this country with coals from America, Belgium and North France contracted for during the British coal stoppage.

British Paper Machines.

Walmesley's Record Breaker in Canada.

We have received official information that one of the two machines which Messrs Chas Walmesley and Co., Ltd., manufactured and installed at the Abitibi Power and Paper Co., Iroquois Falls, Ontario—which are the largest machines in the world—has started and is now making paper successfully. The information is conveyed in the following message—

'The No 7 machine started up a week ago going well from the very start. No 6—its twin—will start in a few weeks. They will make 200 miles of paper 18 ft wide, every day. The machines when running at full capacity will turn out 85 tons of news print paper per day.

The pulp wood from 14 acres will be required to satisfy the appetite of the new machine. A new boiler and steam generating equipment have been installed to provide the necessary power for drying the paper and driving the machine while the electric energy for running the screens, pumps, deckers, grinders, etc. will come from the new power station at Twin Falls.

The new No 7 is 332 inches wide. When the Abitibi Co in 1915 started its No 1 machine which was also built by Chas Walmesley and Co. it was then the largest paper machine in existence being 202 inches wide.

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Finnish Paper Reorganisation.

In a financial and business report issued by the Finnish Central Chamber of Commerce, the following reference is made to recent events in the Finnish paper industry -

In 1918 all the Finnish paper mills combined under the above name for the joint sale of their products till the end of 1921. As the Kymmene Aktiebolag the most important of the said mills, have now signified their intention of themselves attending to their sales abroad after the expiration of the time of the agreement, a new organisation has been found necessary, and after many negotiations the following agreements have been arrived at -

The Finnish Paper Mill Association will, as usual, go on working for the sale of paper for other countries, and, with the exception of the Kymmene Aktiebolag all the other paper mills belong to this Association. The Paper Mill Association consists of three branches for the sale of paper for other countries, and with the exception of the Kymmene Aktiebolag all the other paper mills belong to this Association. The Paper Mill Association consists of three branches for the sale of news print paper, wrapping paper and finer kinds of paper. In their work these three branches are comparatively independent of one another.

Under separate management there has been established a new medium, the Finnish Paper Office (Finlands Papperskontor) for the sale of paper in Finland, as well as in Russia, Estonia, Latvia, and Liffland. This latter organisation has been joined by the Kymmene Aktiebolag.

Finally the Finland Paper Union has been constituted. All the Finnish paper mills join this combine, the objects of which are to care for the common economic interests of the paper mills and to attend to matters which are of general interest to the paper industry as a whole, besides acting as mediator should disputes arise between members and their various organisations.

A Paper Club.

The salesmen and advertising managers of the various paper manufacturers in Canada have been organised under the name of "The Paper Club," with headquarters in Montreal. The object is to bring about a wider acquaintance among those engaged in selling paper to assist in raising the efficiency of selling methods, to promote development of the highest sales ethics among its members and to increase the use and sales of paper and paper products.

An Advertisement is always working

isation of Paper.

U.S. Government Takes Action

A message from Washington, through the American Pulp and Paper Association, states that in an effort by the paper industry to simplify the Government's placing of contracts for its supply of paper, an important conference was held between the Specifications Committee of the Joint Printing Committee of Congress and the American Paper and Pulp Association's Advisory Committee for the Bureau of Standards. The result will be added efficiency in future Governmental purchases making for economy and for a simplification of conditions of sale which will extend the field of possible bidders and thus possibly assist in cutting the cost to the Government of prices on the material it uses.

The conference which was followed by a discussion of technical problems by the paper manufacturers and officials of the Bureau of Standards was devoted chiefly to problems of sizes, weights and similar conditions in paper specifications.

Before the detailed problems were discussed however Mr W J Raybold, president of the American Paper and Pulp Association told the committee that the manufacturers were anxious to be of every service in peace as they had been in the war days to the Government. He said that too strict technical specifications might eliminate many possible bidders for Government business, while reasonable requirements should be maintained to the point of giving the Government every possible protection and at the same time encourage manufacturers to bid for the Government's business. By this procedure he said that the lowest possible prices for paper of the necessary standards could be secured.

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Lancashire Paper Trade.

Bowling Tournament.

After a lapse of three years, the above popular gathering was held on Saturday last on the green of the Sale Hotel, Sale near Manchester. Heavy rain fell during the morning but fortunately the weather cleared about 1 p.m. when play commenced and remained fine until the close at 6.30 p.m. About 70 were present, including one gentleman disguised in a Irish hat. The arrangements made were everything that could be desired, and Mr George Russell (president) Messrs P Westbrook and I H Ingleby secretary and treasurer respectively, along with their colleagues on the committee Messrs Squire Riley and T Newlands are to be congratulated on another successful reunion. Mr J A Haynes, a former official also rendered valuable assistance in the direction of the proceedings. After all expenses have been paid, a useful little sum will be handed over to the *Manchester Evening Chronicle's* 'Indarella Fund'.

Prizes were kindly given by the following Messrs John Lockett Manchester John Williamson (Manchester China Clay Co Ltd) I Wilson (Porritt's and Spencer), J F Salvesen and Co, Ltd London, Squire Riley Radcliffe Berner and Nielsen, London and I M Ellis London.

After an interesting competition the result was as follows—1st prize Messrs B Loft and C Travis, runners up, Messrs A Ogden and T McLeod. Consolation prizes Messrs J A Haynes and S Taylor, runners up Messrs A L Stukins and W M Crow.

At 5 p.m. the party adjourned to the hotel where a substantial tea was served. In presenting the prizes the President said that he was pleased to see such a good attendance in spite of the unfavourable weather outlook during the earlier part of the day. He thanked the company for their presence and said that it was the intention of the committee and himself to carry on and make the tournament an annual affair again (Hear hear).

Mr J F Dennis one of the original founders of the tournament who held the office of president from its inception up to the last one in 1917 a period of seven years proposed a vote of thanks to the president and committee for their services and for the admirable arrangements they had made which had helped to make the gathering one of the most enjoyable ever held.

WITHOUT a division the House of Lords refused a second reading to the Advertisements Bill, which proposed to give local authorities power to direct the removal of unsightly advertisements and to preserve the amenities of country and town.

Steam Raising.

Mr D Wilson (of Messrs Babcock and Wilcox, Ltd), at the annual meeting of the Incorporated Municipal Electrical Association held in London, last week, submitted a summary of his paper on 'Steam Raising—Yesterday, To day and To morrow'. The author traced the history of the process from its earliest days, and in dealing with present day practice devoted considerable attention to the question of efficiency then discussed the various types of furnace in use. On the subject of liquid fuel of special interest just now—Mr Wilson's paper contained the following—

The underlying principle of all the methods for burning the oil is to break it up as completely as possible into a fine spray which would be intimately mixed with the necessary air required for combustion. The three main systems used for burning oil fuel are (1) That in which steam is used as a spraying or atomising agent (2) that in which air is used for this purpose (3) that in which the oil is atomised mechanically by pressure.

In practice the first and third systems are those most generally adopted, the first on account of the greater simplicity of arrangement and the last on account of its higher efficiency and greater applicability to higher rates of evaporation. Generally speaking most burners designed to use steam will work equally well with air. The reason that the compressed air is not more frequently used is on account of the initial expense entailed in the installation of air compressors.

Demand for "News."

Reports from Norway state that the demand for paper is gradually increasing, but a radical change cannot be expected until the autumn when the season opens. For the time being news is in most demand. China and India are in the market with orders.

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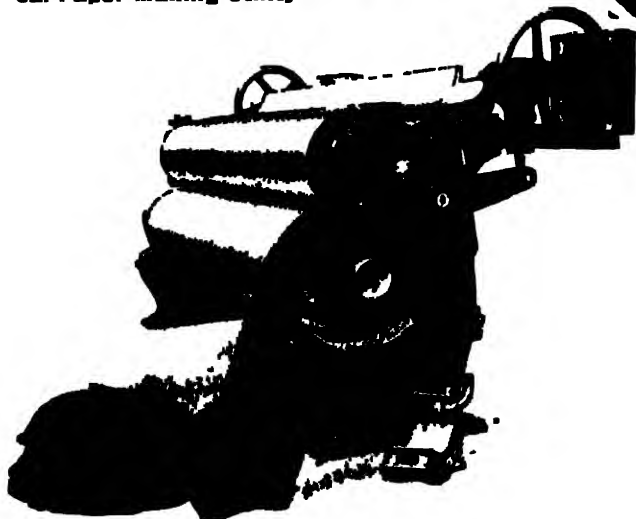
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THE WORLD'S Wood Pulp Industry

Scandinavian Rates of Exchange

THE following rates were current on the dates mentioned (par of exchange to £1—Christiania, Kr 18 159, Stockholm, Kr 18 159, Helsingfors, M 25 22½) —

	CHRISTIANIA Kronor	STOCKHOLM Kronor	HELSINGFORS Marks
July 21	77 76 24 10	17 30-17 43	212 225
22	27 80-29 00	17 35-17 55	220 230
23	27 80 27 90	17 40-17 45	220-230
25	27 40-27 65	17 40-17 55	220 225
26	27 57 27 80	17 50 17 85	220-230
27	27 70 28 00	17 45-17 75	225-237

British Imports—Sources of Supply

THE arrivals of wood pulp at British ports from various countries during the week ended July 16th, 1921, were as under —

BLEACHED CHEMICAL—DRY

Sweden	300 tons	£14 500
Norway	16,	9 130

UNBLEACHED CHEMICAL—DRY

Sweden	4 407 tons	£129,796
Canada	1 818	45 815
Norway	160 "	10,560
Germany	5 "	95

MECHANICAL—WET

Canada	9,053 tons	£148 719
Norway	1,800	22 505
Sweden	1 000	22 500

United Kingdom

THERE are signs that the wood pulp trade is waking up and enquiries are forthcoming from various sources

VERY little demand is yet being made by the British papermakers, however his stocks being still considerable while contract supplies are arriving in larger quantities than was the case during the recent coal strike

It is stated that Australia is sending in some nice enquiries and with an improving outlook in other directions the prospects for the pulp industry are brighter than they have been for some time

ENQUIRIES for chemical pulp are less in evidence than in the case of mechanical, for which a few enquiries are filtering through

CONSIGNMENTS of a substantial character of unbleached chemical and moist mechanical pulp are coming to hand from Canada

PRICES at the moment are very uncertain, and in some cases orders have been placed at rather low figures

Norway

NOT much stir has yet been created in the pulp market, but the outlook is decidedly brighter

A REAL awakening of interest is indicated by certain enquiries which have been received both in the case of chemical and mechanical pulp

ALTHOUGH quoted prices are practically unchanged, active business has been done at lower figures

SMALL quantities of dry mechanical are being disposed of to South European ports at these more favoured figures

Sweden

AN improvement in the prospects of the pulp market has apparently come just in time to save the industry from disaster. The condition of things had become very involved owing to the stagnation which had prevailed and the piling up of stocks at the mills

THE movement of business is still very circumscribed and it will even now be with the greatest difficulty that matters can be straightened out

CONSUMERS are still very cautious in putting forward inquiries and are not going beyond their immediate requirements

It is the uncertainty of the future course of prices which is chiefly responsible for this attitude

CLEARANCE sales of moist mechanical are reported at Kr 45 to 55 per ton, net cash f.o.b. and similar sales are reported from Norway and Finland.

THE competition in the American market is arousing considerable interest on this side, and *Asfarvarden* has the following note on the subject:—With regard to the American market the competition from Germany is now very keen it being reported that German strong sulphite is offered at \$3 per 100 lb ex dock U.S.A. We understand that some of the Scandinavian sellers, who have consignments in U.S.A., are going to take up the competition with the German cellulose makers and follow their quotations which of course means a heavy loss.

FURTHER information concerning the fire at the Lulea Pulp Mill shows that a whole year's production was destroyed but the mill itself was saved. There were about 9000 tons in store. The warehouse was completely burnt down in a couple of hours also the wharf and four big barges. Yttersfors Munksund Aktiebolag have a considerable stock of wet and dry mechanical pulp to dispose of at the Yttersfors Mill.

United States

THE market for chemical pulp has not been marked by any particular business in spite of recent indications.

PRICES, however, have ceased to fall to any serious extent and certain grades which are assumed to have touched bottom are exhibiting definite signs of improvement. The orders being placed however are limited in extent and are intended merely to cover immediate needs.

A BETTER showing has been made by mechanical pulp, which is holding a steady course at \$30 per ton at mills for prime spruce ground wood for prompt delivery.

It is reported that very little first class ground wood is now to be had in the open market and the price of \$20 per ton which was mentioned recently no longer exists.

THE resumption of work at the news print mills which have been involved in strikes is expected to improve the demand for mechanical.

STATISTICS of the pulp production in the United States for May indicate a serious falling off compared with the corresponding month of last year. The total of all grades produced in May last was 216,101 tons, as against 363,815 in May of last year.

THE course of recent events is also indicated by the amount of stocks in hand at the

end of the month the figures of 286,216 tons for all grades of pulp in the mills at May 31st comparing with 183,876 tons a year before.

EVERY description of pulp (with the exception of easy bleaching sulphite) has contributed to the total reduction in output. Bleached sulphite fell from 30,010 tons in May 1920 to 27,793 tons in May this year.

LAST bleaching sulphite the one exception rose from 6,896 tons to 11,170 tons.

MISCHERLICH decreased from 5,338 to 4,863 sulphate pulp showed a decline from 18,790 to 12,856 while soda pulp fell from 35,443 to 21,730 tons.

SULPHITE (news grade) and ground wood pulp which are the largest figures involved show a big falling off. In the former case the decline is from 71,422 tons to 42,167 and in the case of ground wood from 172,341 to 97,963 tons.

Canada

THE business is moving slowly the continuance of the strike in the printing industry helping to hold matters up.

ON the other hand the reopening of the news print mills where work had been stopped owing to disputes over wages has helped to stimulate the market.

A fairly general feeling exists that the market is on the turn and that at all events by the autumn the situation will be very much improved.

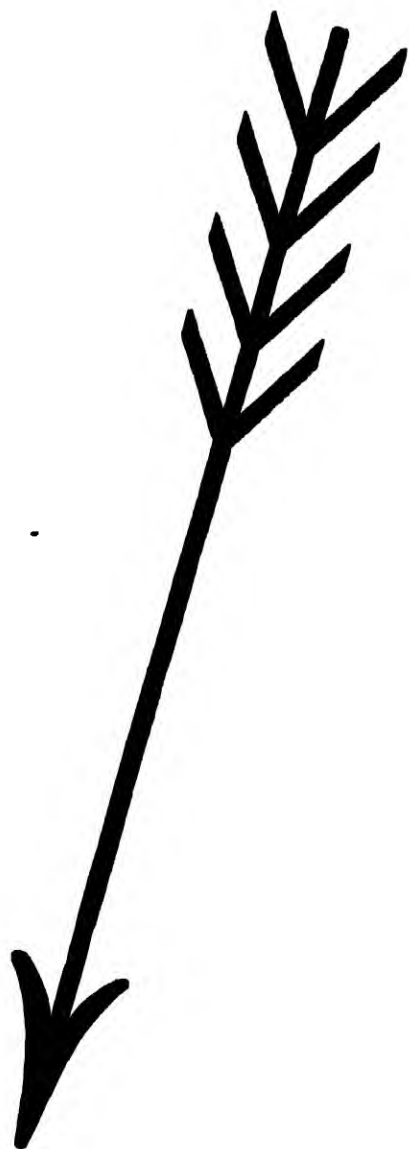
FIRES in the wood pulp forests of Ontario have been creating considerable alarm but they have not been so extensive as some reports would lead one to assume. The loss of pulp wood estimated by Mr. J. A. Zivitz, head of the Forestry branch of the Department of Lands and Forests, Toronto is put at 6000 to 7000 cords.

THE first shipment of Canadian wood pulp across Lake Superior is being undertaken for the Consolidated Co. The raft contains about 6000 cords, valued at about \$60,000.

MUCH Swedish tonnage has lately been transferred for a certain time to German ship owners. A German vessel can be kept running at the minimum cost of a Swedish vessel and if the wages of Swedish seamen cannot be reduced it is considered there is little or no possibility of competing with Germany.

PAPER imported into Japan during the first four months of 1921 as compared with the corresponding period last year is among the goods which shows a heavy decline in the quantity received.

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COMPILED FOR THE 'WORLD'S PAPER TRADE REVIEW,' BY ARRANGEMENT
WITH THE BRITISH WOOD PULP ASSOCIATIONAn Official Account of the Registered Quantities and Values of Chemical and Mechanical,
Wood Pulp Imported at the various Ports of the United Kingdom.

BLEACHED CHEMICAL—DRY

Date	Port	Vessel	Port whence	Quantity		Value	Importers
1921				Bales	Tons	£	
July 18	London	Torcello	Christiania	80	10	720	Bernier & Nielsen
" 18	"	"	"	400	50	1,375	
" 12	Hull	Kovno	"	320	40	2,540	
" 14	"	"	"	125	25	1,755	Ellerman's Wilson Line, Ltd J T Salvonsen & Co, Ltd W G Taylor & Co Ltd
" 11	Grangemouth	Breda	Friedrikstad	240	40	2,540	
" 11	Methil	Gosta	Gothenburg	1,800	300	14,500	

UNBLEACHED CHEMICAL—DRY.

1921				Bales	Tons	£	
July 11	London	Domira	Chicoutimi	5,037	1,005	20,130	Becker & Co Ltd
" 13	"	Can Sower	"	4,069	813	20,650	
" 14	"	Saipen	Sarpsborg	360	160	10,580	C Shaw Lovell & Sons Ltd A E Reed & Co, Ltd H Lloyd, Ltd
" 15	"	Saga	Gothenburg	700	100	4,800	
" 16	"	Themis	Bergvik	4,975	987	37,500	
" 17	"	Kristoford	Gefne	5,080	1,010	18,412	Ellerman's Wilson Line Ltd J T Salvonsen & Co, Ltd Becker & Co Ltd
" 16	"	Sorecina	(Helsingfors and Svapo)	7,800	1,310	45,000	
" 4	Hull	Hollo	Gothenburg	500	100	3,000	
" 6	Leith	Ingeborg	"	66	10	244	F Lloyd, Ltd
" 9	"	Weimar	Hamburg	50	5	950	
Add to Amend							
June 1	London	Grundtan	(Ottvikon and Wifotavanta)	5,750	1,150	42,098	

* Under Query, subject to amendment

MECHANICAL—WET.

1921				Bales	Tons	£	
July 11	London	Domira	Chicoutimi	18,011	3,602	64,077	Becker & Co Ltd
" 13	"	Can Sower	"	7,810	1,562	22,580	
" 13	"	Caring	Diammen	5,924	1,065	12,715	Bernier & Nielsen
" 14	"	Alconda	Botwood	1,754	318	4,790	
" 16	"	Noirtelje	Hilmaund	5,000	1,000	22,000	E Lloyd, Ltd
" 12	Liverpool	Can Commander	Montreal	468	96	540	
" 15	Grimaby	Torcello	Diammen	2,175	435	7,300	Becker & Co Ltd Johnson, Jorgensen & Wettre
" 11	Manchester	Skotfos	"	1,000	200	2,190	
" 13	London	Can Settler	Clark City	21,502	3,800	66,422	Bernier & Nielsen E Lloyd, Ltd J T Salvonsen & Co, Ltd
" 17	Grangemouth	Breda	Sarpsborg	800	100	600	

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A Paper Bibliography.

Contents of the Patent Office Library

A considerable number of books dealing with papermaking in its various aspects have been collected in the Patent Office Library, 25 Southampton Buildings, Chancery Lane, London. They represent both British and foreign publications and constitute an important collection of papermaking literature. It was thought that a list of the works might be useful in the event of reference being required. Accordingly we have had this compiled, and it is set forth under the following headings:

Papermaking

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(To be continued)

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Austria and Its Paper.

Changes Brought About by the War

The series of reports on the industrial and commercial situation in various countries issued by the Department of Overseas Trade serve the valuable purpose of indicating the conditions existing in those countries as a result of the War.

The most recent report deals with Austria and has been prepared by Mr. O. S. Phillpott, commercial secretary to H.M. Legation Vienna. British paper people have always been greatly interested in Austria on account of its paper products and the recent break-up of the old empire renders it more important to understand the industrial and commercial conditions of the Austrian Republic as it exists to-day. The report under notice reviews the whole situation in detail but for our purpose we are chiefly interested in the position of paper.

It is worthy of note that the experience of the last two years shows that the buyers in the Balkan States still prefer to go to Vienna to make their purchases even though the goods they want may be manufactured in Czecho-Slovakia whose head offices have been removed to Prague.

In a note on the imports of Austria during 1919-20 it is pointed out that Czecho-Slovakia supplied nearly all the imported packing paper while that country and Germany provided the machinery and the chemicals. As to exports in 1919 the Austrian manufactured goods, which included paper and machinery, went chiefly to the old markets the Succession States, first Czecho-Slovakia and then Poland and Hungary. Showing, says Mr. Phillpott, that the natural channels of trade are not to be wholly stopped by artificial barriers.

Paper figures in all the statistics of Austrian trade so we find that among the chief exports to the United Kingdom paper takes a prominent place.

The appendixes attached to the report contain valuable data concerning the paper industry of Austria. The paper industry we learn now gives employment to 14,000 hands something like 48 per cent of those engaged in the old empire on the same work. In 1910 the number of hands employed in both paper and leather was 45,718. The percentages of full production in May 1920 are given as follows: Paper 15 per cent, pulp 50 per cent, wood pulp 80 per cent. These combined give

a percentage production in May last of 60 per cent to 70 per cent. The percentage of full coal requirements received in January 1920 was 3-5 per cent and in October 52 2.

Imports and Exports

Details of the imports and exports of paper during 1920 appear in appendix 12. The total imports of paper and paper goods were 18,003 tons, 17 4 tons being received from the United Kingdom, 11,708 from Czecho-Slovakia which was the chief source of supply. Of the total figure paper represents 6,310 tons, 47 tons from the United Kingdom, 4,150 tons from Czecho-Slovakia, packing paper 2,041 total tons, 63 from United Kingdom and 1,913 tons from Czecho-Slovakia, photographic paper 129 total tons, 5 ton from United Kingdom and 125 tons from Germany. Paper goods represented a total of 2,612 tons, United Kingdom 87 tons, Czecho-Slovakia 1,420 tons and Germany 865 tons.

Literary works and works of art were imported to the extent of 2,851 tons, 2 1 being received from the United Kingdom and 2,401 tons from Germany. Most of this tonnage was books, periodicals and newspapers.

It is instructive to note in what direction went the exports of paper from Austria last year. The total export of paper and paper goods amounted to 85,700 tons of which 30,249 went to Italy, 13,148 to Hungary and 681 tons to United Kingdom. The total figure included 19,195 tons of wood pulp, of which 9,245 tons went to Italy and 10 tons to United Kingdom.

Other export figures are: Packing paper 7,302 total tons, United Kingdom 212 tons, Italy 2,154 tons, copying paper etc. 3,604 total tons, 9,510 tons, United Kingdom and 125 tons, Italy, paper goods 6,713 total tons, 24 tons, United Kingdom, 1,809 Hungary, 855 Yugoslavia and 533 Czecho-Slovakia.

Works of art and literature were exported to the extent of 2,684 tons, Germany taking 980 tons, Poland 115 tons, Switzerland 255 tons and United Kingdom 162 tons. The chief items were books, periodicals, newspapers etc. 191 total tons of which Germany took 755 tons and the United Kingdom 76 tons.

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Extensive paper machine alterations have recently been completed and installed by the firm at a well known mill including a complete new wet end and wire part with presses, calenders and drive, together with erection of complete machine throughout. Other orders in hand include the re-arrangement of beaters, stuff chests, pumps, strainers, wire part, press and dry part.

A new design of slitter and reeler is now in the course of construction and will shortly be delivered to one of the leading paper mills.

The beating engines manufactured by the firm are of special design. The trough of the Hollander type is so designed that the stuff, while circulating in the usual way, rotates or turns over on its self, thus ensuring perfect mixing and even beating. The balancing of the better roll has been carefully considered and by moving the balance weight the pressure between the roll and the bed plate can be adjusted or if required the entire weight of the roll can be taken off without disturbing the position of the roll. Good beating being one of the most important factors in papermaking this new design should appeal to papermakers amongst other machinery manufactured by the firm are Jordan engines, strainers, duplex and single cutters, paper calenders, etc.

Foreign Samples Exhibition.

The Department of Overseas Trade - whose permanent address for the display of foreign samples is at 7-11, Old Bailey - has lately made several additions to its collection of exhibits relating to the paper trade. The Department is constantly receiving samples of competitive goods from abroad and quite recently has arranged to augment its collection by the addition of specimens of tissues, boxed stationery, filter papers, etc. In each case particulars will be given of the markets from which the goods have been received together with their respective prices.

It may not be generally known that the Department of Overseas Trade is at the service of the business community in supplying information and securing samples for use of manufacturers when they are unobtainable by any other means.

Among recent additions is a specimen of 'news print' of Japanese manufacture which finds its way into the Siamese market. This is dated April 1921 and is priced 4½d per lb c.i.f. Bangkok. Another grade of news print from the same market and of German manufacture is priced 10d per lb c.i.f. Bangkok.

A sample is also shown of the productions of the American Writing Paper Co. who have manufactured with considerable success a fine class of writing paper from cotton linter pulp, a specimen of the pulp being also shown. In a statement covering the sample it is stated that the Department of Technical Control of the American Writing Paper Co. have found that cotton linters have given most satisfactory results when used in place of soda pulp.

Other recent samples include Bristol linen paper of Swiss make, writing paper of Italian make, American writing paper for the Indian market, wrapping paper made in India for the Indian market and a collection of wall paper of Polish manufacture which has found its way into several Colonial markets.

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Chemicals

The resumption of work in the Lancashire cotton district and increased employment in the papermaking industry is helping to bring about a better inquiry for all grades of chemicals. ALUMINA ALKALI is in steady demand at £8 15s to 19 per ton. BICACUMINE POTASS is still active and is £16 per ton for home trade uses and £16 to £16 10s per ton for export. CAUSTIC SODA is in better request and is quoted at £20 to £26 10s per ton for 75 per cent, £24 to £25 per ton for 70 per cent, and £23 to £24 per ton for 62 per cent. SALT CAKE continues quiet at £7 to £7 10s per ton for the home trade and from £7 10s to £8 per ton for export. SODA CRYSTALS in active inquiry at £6 10s to £7 per ton in 1 ton lots for home trade uses carriage paid to station. ALUM remains quiet and is £16 10s to £17 10s per ton for home trade purposes and £16 10s to £17 per ton for export. SULPHATE OF ALUMINA in limited demand is £12 10s to £15 per ton according to grade. SULPHUR is in fair request English flowers being procurable at £16 per ton. Roll £16 to £17 per ton. Sicilian grades flowers £15 per ton. Roll £14 10s and Rock £6 10s per ton.

Chemical Wood Pulps

Pulp agents are a little more cheerful but actual business going through is not great. British papermakers are still too well supplied with the chemical product to require more immediately. There is, however, a feeling that things are waking up and when the holidays are over steady movement may be expected.

Mechanical Wood Pulps

A few inquiries are filtering through for mechanical pulp and prices are easy. A small parcel is said to have gone through at £3 12s 6d but there is no stability on this side of the market.

Esparto

The demand for Esparto is better, and the whole position stronger than it has been of late.

Home Rags

Home rags are moving but only to a limited extent. There is, however, an improved outlook, and the promise will doubtless be realized when the holidays are over. Prices are still in process of adjustment.

Foreign Rags

The market for Foreign Rags is devoid of interest, and transactions are neither large nor profitable.

Waste Papers.

There is a prospect at last that it may be possible to dispose of some of the stocks of waste papers though it will take time for the market to regain anything like firmness.

Sizing

There has been no material change in the glue market during the last fortnight. Prices continue the same with a tendency to harden.

Colours

There is no change to report in prices with the exception of soluble brown crystals for which the present price is £24 per ton pre-war quality.

Loadings, etc

Now that the mineral works have again started there is a fair supply of barytes and gypsum on the market and price is inclined to be easier. For good orders works are willing to drop 1s to 2s per ton. China Clay has been reduced about 12½ per cent and many bargains can now be obtained. The high railway rates are however interfering with business.

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Notification of dividend announcements and changes in the price of shares, especially where dealings are very infrequent, is invited

Nominal Amount	Amount Paid	Name of Company	Last Dividend	Nominal Prices
PAPER, PULP &TC				
1	1	Acme Paper Mills	17/8-18/0	
1	1	" 8 / Part Pref	11/6-12/6	
1	1	Annandale & Son ord	7 3-1	
1	1	" " pref	61/8-62/6	
1	1	Beecher & Co pref ord	27/0-28/0	
1	1	Burley	C ^o 20 2	
7	7	Bury ord Gigg	15 3 15	
1	1	Darwen	10 30/0-32/6	
1	1	Dickinson (John) ord	2/0 14-14	
100	100	" 5 / cum pref	5 65-70	
100	100	" 4 1/2 deb	4 58-63	
10	10	East Lancashire	20 20-22	
1	1	" bonus	2/6 5-5 1/2	
1	1	Guardbridge	47/6 12-12	
1	1	Hartlepool	12 5/8-5/6	
100	98	Imperial 7 1/2 / Debs	104-105	
100	98	Lloyd (Edward) 5 1/2 / pref	27 1/2-31 1/2	
100	98	London Paper Mills 6 / deb	99-100	
1	1	Marden & Sons (Charles) ord	21/0 4-4	
1	1	" 7 1/2 cum pref	98 4-4	
100	100	" 6 / deb	5 38-40	
1	1	North of Ireland	1/6 14-2	
1	1	Olive & Farlington 5 / pref	5 31-32	
1	1	Olive	10 11 3-9/4	
1	1	Owen (T) & Co ord	15 32/5-33/6	
1	1	" 6 1/2 pref	6 12/4-12/9	
5	5	Peabien (A M) & Son	10 2-3	
5	5	" 5 1/2 cum pref	5 24 34	
100	100	" 5 1/2 deb	5 28-33	
1	1	Ramsbottom cum pref	5 15/0-17/0	
1	1	Read (A H) 5 1/2 cum pref	5 12/0-12/3	
100	100	" 4 1/2 deb	4 58-63	
1	1	Rough Bridge	15 2-2 1/2	
1	1	Star	9d 19/3-20/3	
5	5	St Neots	5 43-5 1/2	
10	10	Spicer Bros cum pref	5 7 5-5 1/2	
1	1	Wall Paper Manufacturers ord	2/0 13/9-14/3	
1	1	" 5 7 cum pf	2/6 12/9-13/3	
1	1	" " deb	2 7/0-7/3	
100	100	" (1918) 1st deb	4 54-55	
1	1	Wiggins Tissue ord	35 14/9-15/0	
1	1	" 7 / pref	7 17/0-17/6	
100	100	" 8 / 1st Mt Debs	8 101-102	

CHEMICALS, ETC.

1	1	Brunner Mond	7	7	24/3-24/3
5 1/2	100	" 7 1/2 cum prod	2	2	20/3-20/3
1	1	Cusker Koller Alkali 45 deb	4	4	20/3-20/3
1	1	Salt Union 97	2	2	12/3-12/3
5 1/2	100	" 7 1/2 non cum prod	2	2	18/3-14/3
5 1/2	100	" 7 1/2 smart deb	4	4	31-63
10	10	" "B" smart deb	4	4	34-50 1/2
5 1/2	100	Steiner (F) & Co cum prod	5	5	6-64
1	1	" deb stock	4	4	25-27
1	1	United Alkali	1	1	13/3-13/3
10	10	" 7 / cum prod	7	7	22-74
5 1/2	100	" smart deb	5	5	65-68 1/2
3 1/4	3 1/4	United Indigo & Chemical	1	1	12/3-12/3
12 1/2	12 1/2	" 57 cum prod	24	24	10/6-11/6

Mr Cornall writes - Paper shares still idle and featureless Star offered at 20s 3d Wall paper Ord 14s ditto Def 7s 14d Chas Marsden Ord and Pref round 15s, Darwen 30s Olive's firmer, 9s 9d, Hartlepool lower 5s 3d, East Lancashire £21 bid, North of Ireland offered at 41s 3d and Burnley at £2 0s 6d St Neots changed hands at £5

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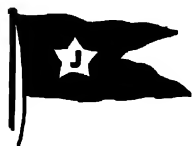
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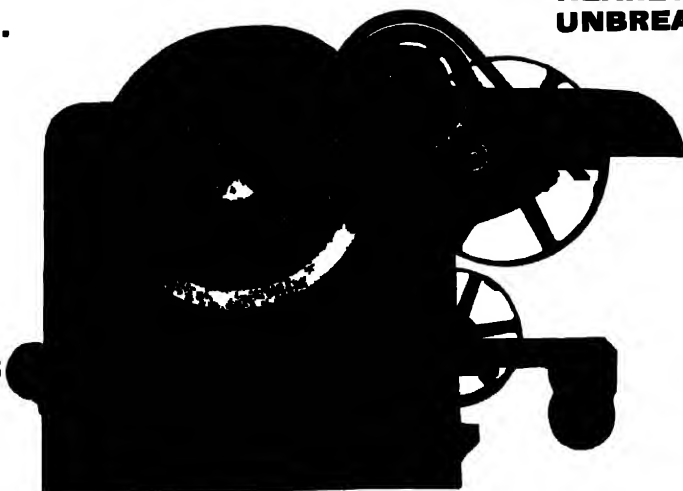
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Commercial Intelligence.

RE STEPHEN FORDHAM late of 1 Reeves place Hoxton N, cardboard box manufacturer - Creditors under this failure met at the London Bankruptcy Court on July 18th before Mr Warren, official receiver. No accounts were lodged but the chairman reported that the debtor roughly estimated his liabilities at £2,000 and valued his assets at between £700 and £800. The debtor had stated that he formerly managed the business for his grand mother, but at the end of 1919 it was assigned to him on condition that he paid her £100 cash and allowed her £3 a week for life. He continued it successfully until some six months ago when there was a considerable drop in the price of stock and the sales resulted in a loss of 50 per cent. A resolution was passed for Mr A G White C 14 Old Jewry chambers B C to act as trustee and wind up the estate in bankruptcy.

RE J BANNISTER AND CO printers and box manufacturers 96 Laburnum street Kingsland road, N.E. - The first meeting of creditors under this failure was held last week at the London Bankruptcy Court. Mr W P Bowyer senr official receiver reported that George Newton Osborne had attended under the proceedings and stated that he was apprenticed to a printer in 1878 and had been in the trade more or less ever since. At one time he was manager of printing works at Cincinnati at a salary of \$20,000 per annum. In 1915 he purchased for £400 a printing business then being carried on at 27 Old Jewry chambers. It progressed under his management and in 1917 he purchased further printing plant and removed to the above address. In July 1919, he took up box making and further premises were taken at Brunswick street where a fire occurred in October 1919 causing damage to the extent of £19,000 but he could only recover £5,000 compensation. Subsequently there was another fire at the Laburnum street premises but his claim to £8,300 relating thereto had been practically admitted. The debtor attributed his position to heavy interest charges and bad health which had debilitated his regular attendance at the business. No statement of accounts had been lodged but the debtor roughly estimated his liabilities at £20,000 and valued the assets at £12,500. A resolution was passed for Mr A Willmott C 14 Old Jewry chambers B C to act as trustee and administer the estate in bankruptcy.

RE BARNETT ROSOFF printer and stationer, 77 Brick lane, Spitalfields lately trading as the Process Art and Commercial Printing Co at 13 Hague-street Bethnal Green E - This bankrupt who petitioned the London Bankruptcy Court in August, 1919, applied to Mr Registrar Mellor on July 12th for an order of discharge. The official receiver reported that the bankrupt returned liabilities £1,011 and the assets had realised £55 18. A Russian Pole, the applicant came to London in 1901

In July, 1915 he started the printing business but knew nothing of the art. The trade increased but in October, 1919 he was ordered to pay £200 damages, to a boy employee who was injured by machinery from which the guard had been inadvertently removed by someone. In the previous August the bankrupt contracted to buy £1,400 worth of paper, he received £665 worth and had it manufactured into writing pads for the army in France. There was a heavy fall in the prices offered for the manufactured article the bankrupt induced the paper merchants to cancel the balance of the contract and to accept a payment of £200 on account of actual deliveries. He subsequently paid a further £72 and still owed them a balance of about £400. The business came to a stop on the signing of the armistice in November 1918. He subsequently sold off the stock of pads and all his machinery and closed the business in March 1919. As offences the official receiver alleged (1) insufficiency of assets to equal 10s in the £ on the amount of the liabilities (2) omission to keep proper books of account (3) trading with knowledge of insolvency and (4) mis conduct in making repayment of loans to family and friendly creditors to the amount of £140 to the exclusion of trade liabilities aggregating £680. His Honours upheld the report and suspended the discharge for two years and six months.

Charles Henry Irons and John Mun 213 Hoe street Walthamstow paper bag makers
Herbert Gummer and Walter Buckingham George printers Clayton Works Oakfield road Croydon

Harold William Peacock and Reginald Hugh Ellison Thomas printers 33 Hanover street Liverpool

Patrick Cassin and John Lloyd Owen general stationers 62, Oxford street W

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SPRUE PRINTERS, LTD (Northampton)—Capital £1,500 in £1 shares, printers engravers publishers etc. Private company. Directors H S Rushden and E Knight.

SPENSES PRESS LTD—Capital £50,000 in £1 shares, to take over the business of printers and box and packing case makers carried on by Abdulla and Co, Ltd, at 43 and 45 Great Eastern Street 56 54 and 60 Curtain Road, 32 Holywell Lane and 101 Clifton Street, London. Private company. Subscribers H F Pool and J Keen. Subscribers appoint directors.

HEATH WRAPPER CO LTD—Capital £3,500 in £1 shares, to acquire from B B Binks J A I Crowther F N Kent Lemon F Heath and G D Heath carrying on business at Mirfield, Yorks as The Heath Wrapper Co. certain letters patent No 139,610 of 1919 relating to an invention known as Heath's Patent Wrapper, and to carry on the business of wholesale or retail manufacturers of and dealers in wrappings labelling stamping or packing machines of all kinds etc. Private company. Directors I Heath G D Heath B B Binks J A I Crowther and F N Kent Lemon. Registered office Paragon Iron Works Halifax.

A FRIEMAN AND CO LTD—Capital £20,000 in £1 shares, general merchants manufacturers of and agents for chemicals leather goods machinery felt goods fancy goods stationery music etc. Private company. Directors A I I Freeman and J J Freeman. Registered office 4 St Mary Ave, LC.

REFRANT ADVERTISING SERVICE LTD—Capital £1,000 in £1 shares, advertising agents printers stationers lithographers etc. Private company. Subscribers A I Wright and I W Keen. Registered office 4, London Wall Buildings, LC.

LIVERPOOL ECONOMY STORES LTD—Capital £75,000 in £10 shares, to take over the business of wholesale and retail silk mercers, etc. manufacturers and importers of and wholesale and retailers dealers in leather goods stationery and fancy goods carried on by Joseph Tario, L Cohen Joel Tario and S Samuels at 4-18 Deane Street, and Market Street at the rear Liverpool as the 'Liverpool Economy Stores'. Private company. Subscribers Joseph Tario, L Cohen Joel Tario and S Samuels. Registered office 4-18, Deane Street, Liverpool.

MILNER AND GREEN, LTD—Capital £2,000 in £1 shares, to take over the business of manufacturers' agents and East India mer-

chants carried on by Milner and Green, at 8, Moor Lane EC and to carry on the business of general warehousemen manufacturers and importers of and wholesale and retail dealers in leather, stationery and fancy goods, etc. Private company. Directors H Milner and H H Green. Registered office 8, Moor Lane LC.

JAMESONS (St BRIDES) LTD—Capital £3,000 in £1 shares, music publishers, etc. Private company. Directors J D Adkinson and Mrs A M M L Smith.

Mortgages and Charges.

ALLEN STRONG AND CO LTD (paper merchants and agents etc., London)—Particulars of £25,000 debentures authorised July 4th 1921 present issue £10,000, charged on the company's undertaking and property present and future, including uncalled capital.

JOHN HEATH AND CO, LTD (manufacturers paper and stationery articles etc.)—Mortgage on certain properties in Birmingham dated June 30th 1921 to secure all moneys due or to become due from company to Lloyd's Bank not exceeding £5,000.

CANNON AND CHAPPELTON LTD (paper manufacturers etc. Sundford on Thames)—Satisfaction in full on May 28th 1921 (a) of first debentures dated January 17th 1902 to January 13th 1909 securing £4,000 and (b) of second debentures dated March 31st 1910 securing £5,000.

IRISH PAPER MILLS CO LTD (London and Clondalkin CO Dublin)—Satisfaction to the extent of £3,300 (being balance) on June 14th 1921, of charge dated March 13th 1915 securing £30,000.

JOHN RISSSEN LTD (stationery etc. London)—Particulars of £2,000 debentures authorised June 7th 1921 whole amount issued charged on the company's undertaking and property present and future including uncalled capital subject to such of the debentures issued in 1912 as are outstanding.

WEBBERLY LTD (printers)—Mortgage dated July 6th 1921 to secure £2,000 charged on certain premises in Hanley. Holders Leek and Moorlands Building Society.

WALFEL LETCHER (ILFORD), LTD (manufacturers and printers of advertising show cards labels boxes stationery, etc.)—Mortgage on leasehold factory premises in Roden Street Ilford dated June 18th, 1921, to secure all moneys due or to become due from company to Barclay's Bank.

FRIEAPERS, LTD (printers, Upper Norwood SE 1)—Debenture dated June 20th, 1921, to secure £3,675, charged on the company's undertaking and property, present and future, including uncalled and unpaid capital. Holder Miss A Abraham, 12, Waldegrave Road, Upper Norwood, SE.

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ULTRAMARINES

Norwegian Paper Market.

The market for paper (in Norway) seems to be slightly recovering. Several small orders are being placed, and considerable activity is observed. The prices however, continue very low. Official quotations for paper at the Christiania exchange were the following —
 News in reels, 50 grs Kr 550, kraft paper 46 grs, Kr 800, greaseproof, 40 grs, Kr 800, g wood free printing 50 grs Kr 1,200, g wood free writing, 60 grs Kr 1,350, unglazed bank 44 grs, Kr 1,250, M G cap paper 17 grs Kr 1,300, M G sulphite paper 17 grs Kr 1,500 all per ton net f o b — *Lidskrift for Papirindustri*

Foreign Paper Duties.

UNITED STATES

The new tariff bill before the United States Government proposes a duty of one fourth of one cent per lb and 10 per cent *ad val* on printing paper on paperboard and pulp board, not cut into shape 10 per cent *ad val*, tissue, stereotype and copying paper, 6 cents per lb and 15 per cent *ad val*, writing letter note, drawing hand made paper bristol board, etc., 3 cents per lb and 15 per cent *ad val*, paper envelopes the same rate as the paper from which made and 5 per cent *ad val* if bordered embossed, etc. 10 per cent, papers and paperboard and pulp board cut or shaped, etc., 23 per cent *ad val*.

News print paper and wood pulp are on the free list, but a duty of 10 per cent *ad val* may be imposed in retaliation for any embargo or restriction placed by another country upon printing paper, wood pulp or wood for the manufacture of wood pulp. This threat, of course, is aimed chiefly at Canada.

Openings for British Trade, etc.

Inquiries have been received by the Department of Overseas Trade (Development and Intelligence), 35, Old Queen street, London, S W 1, to whom further inquiries should be addressed with the reference number quoted.

CANADA

A firm in Toronto is desirous of acting as buying agents in Canada for high class United Kingdom manufacturers of colours as required by manufacturers and decorators (Reference Canadian Government Trade Commissioners Office, Portland House 73, Basinghall street, London E C 2).

URUGUAY

The commercial secretary to H M Legation at Montevideo states that a local firm are de-

sirous of obtaining samples and quotations from United Kingdom manufacturers of high-class writing and printing papers. (Reference No 83)

New British Patents.

Appellation

Alexander I S and Holt, H Bearings for tube rolls of papermaking machines, etc 18 924
 Carleton N and Kerston A Machines for making envelopes etc 18,495
 Cartwright, J I, and Clowes, I Cardboard boxes etc 18 615
 Criddle, J F and Thompson B W Containers 18 612
 Evans H I, and Turner, A W Envelopes 18 233
 Levers, S W Perforated labels, etc 17 489
 Levers S W Tag labels 17 490
 McArthur I H Postal envelopes 17 624
 Riskev, P N Winner and cutter for paper reel ends, etc

Specifications Published 1920

Millington and Sons Ltd and Downer & Co Folding boxes 165 688
 Smith, C H & Co Paper embossing machines 165,954
 Steiner, B Blotter 165 701

Complete Specification Open to Public Inspection Before Acceptance 1921

Schwarzkopf R Method of manufacture of raw alkali cellulose for working into viscose 165 743
 Soc Anon la Formite Machine for manufacturing insulating or other paper tubes 166 105

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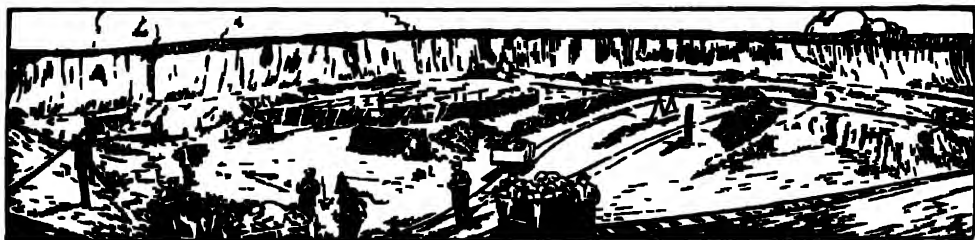


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Alkali, Ammonia, 58% Alum (Ground) Hercules	for works for b L'pool	24 7 24 8	8 15 0
" barrels " tierces	" Hull " Glasgow	24 8 24 8	24 10
(Lump) barrels " tierces	" L'pool " Hull	24 8 24 8	24 15
" tierces " tierces	London	24 8	24 15
Alumina Sulphate 14% bags	for Tyne	15 0 0	15 0 0
" Hydrate 35-40% Aluminaferrie Cake, slabs	" Liverpool	15 0 0 9 0 0	15 0 0
Alumina Cake, slabs Barium Chloride	Glasgow for Tyne	7 10 0 18 10 0	7 10 0
Blanc Fixe Bleach (soft wood) carriage paid	" " (hard wood) for b L'pool net	15 0 0 17 0 0	15 0 0
Borax (crystals) for b L'pool net	34 0 0	34 0 0	34 0 0
" (powdered) Caustic White, 77%	" " for b L'pool net	34 0 0 26 0 0	34 0 0
" " 78% " " 79% " " 80% " " 70% car paid	" " for export " net " net	26 0 0 24 0 0 25 10 0	26 0 0
" Bottoms Sulphite of Soda, 3-7 cwt cks for Tyne	for Tyne " Tyne net	20 10 0 20 10 0	20 10 0
Sulphite of Soda Oxalic Acid	for b L'pool net per lb " b London	13 0 0 13 0 0	13 0 0
Satin White Sulphite of Ammonia (First) lump for Widnes net	13 0 0 " net	13 0 0	13 0 0
Salt Cake (Second) Soda Crystals (Bags)	per ton 6 to 7 10 0 " Tyne 1 ton min 7 0 0	7 0 0 7 0 0	7 0 0
" ex-Wharf " for b L'pool net	7 0 0 7 0 0	7 0 0	7 0 0
Sulphate of Ammonia Sulphate of Copper	delivered for b L'pool	24 10 0 31 0 0	24 10 0
Sulphur, rolls bags " rock	for 17 0 0 " net	17 0 0 17 0 0	17 0 0

CHEMICAL WOOD PULPS**GREAT BRITAIN***For b prices, with freight and insurance, work out of proximity, for ton c i f U K ports —*

Sulphite, Bleached, good quality	24 10 0	27 10 0
" Easy Bleaching, 1st Quality	9 0 0	23 0 0
" "New" or 1st Quality	17 0 0	21 0 0
Soda, Unbleached, 1st	23 0 0	23 0 0
" " Kraft or Strong	28 0 0	28 0 0

NORWAY*Per ton for b, net cash*

Sulphite, Bleached	crw	Kr 730
" Easy Bleaching		600
" Strong		530
Sulphite, Easy Bleaching		550
" Kraft		500

SWEDEN*Per ton, for b net cash*

Sulphite, Extra Bleached	Sw Kr	— 575
" Easy Bleaching		— 460
" Strong		— 420
Soda, Easy Bleaching		— 385
" Kraft		— 360

FRANCE*From c i f Rouen, for 100 kilos (2 cwt) based on actual rates of freight and exchange*

Sulphite, Bleached, Superior	Fr	140—175
" Ordinary		140—150
" Easy Bleaching		115—125
" Unbleached, Strong Prima		100—110
" Secunda		90—100
Soda Pulpe Bleached Superior		130—150
" Easy Bleaching		110—120
" Strong Unbleached, Prima		95—105

UNITED STATES*Foreign, ex Dock —*

Sulphite, Bleached	Dols	5 75
" Easy Bleaching		5 75—4 00
" Unbleached		5 00—4 00
Sulphite, Bleached		5 25
" Unbleached		—
Kraft Pulp		— 3 75

Domestic delivered Mill —

Sulphite, Bleached		5 50
" Unbleached		5 50—5 75
Soda, Bleached		5 50

CANADA

Sulphite, Bleached		140 00
" Easy Bleaching		8 00—85 00
" Strong		80 00—85 00
Sulphite, Kraft		130 00—135 00

MECHANICAL WOOD PULPS.**GREAT BRITAIN***For b prices, with freight and insurance, work out of proximity, for ton c i f U K ports —*

Pine, 30% moist, unwrapped, prompt forward delivery	63 0 0	5 10 0
" dry, prompt delivery	9 0 0	10 0 0
" forward delivery		

NORWAY*Per ton for b*

Pine, 30% moisture	Kr	100—110
" dry		100—110

SWEDEN*Per ton, for b Net Cash*

Pine, 30 per cent moisture	Kr	80—90
" dry		140—150

FRANCE*From c i f Rouen, for 100 kilos (2 cwt), based on actual rates of freight and exchange*

Pine, 30% moisture	Fr	80—70 00
" dry		25 00—30 00
Aspen, " fine dry		100 00—110 00

CANADA

Per ton (net mill)	Dols	30—40 00
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Spanish—First Quality	£7	0	0—	7	15	0
Oran						
Bona and Philippeville—First Quality	5	0	0—	5	15	0
Blax and Gabee—First Quality	4	10	0—	4	15	0

HOME RAGS.

Nominal Prices

LONDON			
N White Cuttings	58/6	London Thirde	4/6
New Prints and		Country	8/6
Selecins	38/6	Canvas, No 1	40/6
New Duck Cut		" No 2	38/6
tings (Govt)	29/6	" No 3	20/6
Fines (selected)	38/6	Mixed Rope	9/6
" (ordinary)	32/6	White Strings	43/6
Outabots	12/6	White Manila	28/6
London Seconds	4/6	Rope	24/6
Country	15/6	Coil Rope	24/6
Soft	12/6	Bagging	8/6
		Gunny	4/6

BRISTOL			
Fines	28/6	Clean Canvas	20/6
Outabots	19/6	Second Canvas	17/6
Seconds	14/6	Light Prints	15/6
Thirde	6/6	Hemp Coil Rope	15/6
Mixed Bagging	5/6	Tarred Manila	10/6

MANCHESTER			
Fines	35/6—40/6	Blues	10/6—12/6
Outabots (best)	20/6—25/6	Bagging	4/6—6/6
" (ordinary)	15/6	" (common)	3/6—4/6
Seconds	12/6—15/6	W Manila Rope	12/6—14/6
Thirde	4/6—5/6	Burat Tares	5/6—6/6
Prints	20/6—22/6	Gunny	7/6—8/6
Selected Prints	18/6—20/6		

EDINBURGH			
N W Cuttings	25/6—25/6	Light Prints	20/6—22/6
(selected)		(extra)	
N Light Prints	25/6—20/6	Dark Prints	17/6—20/6
N Dark	25/6—20/6	W Manila Rope	20/6
N Blue Dungarees	25/6	Tarred	22/6
Superfines	20/6	" Hemp	33/6
Second Fines	15/6	No 1 Bagging	10/6
Best Seconds	15/6	No 2	7/6
Ordinary Seconds	15/6	Common	4/6
Thirde	22/6		

GLASGOW			
Best Fines	35/6	N Lt Flannelletts	35/6
Second Fines	30/6	W Manila Rope	18/6
Ordinary Seconds	18/6	Tarred Manila Rope	10/6
Common Seconds	14/6	Tarred Hemp Rope	20/6
Old Best Lt Prints	22/6	No 1 Canvas	40/6
Old Clean Prints	17/6	Second Canvas	25/6
New White Shirt		New Rope Ends	10/6
Cuttings	25/6—70/6	Best Clean Bagging	5/6
New Light Prints		Common Bagging	1/6
and Selecins	35/6—40/6		

FOREIGN RAGS.

Prices c i f Thames

Extra Linens	60/6	Blue Linen No 1	40/6
White Linens No 1	55/6	Fustians	13/6
" No 2	48/6	Old Bagging (solid)	6/6
" No 3	38/6	" (common)	4/6
" No 4	28/6	Hemp, tarred in coils	40/6
" No 5	15/6	Hemp Strings	40/6
Grey Linens (strong)	50/6	New Cuttings	
(extra)	20/6	White Linen	78/6
White Cotton, No 1	33/6	Unbleached Linen	78/6
" No 2	23/6	Gray Linen	7/6
" No 3	23/6	Extra White Cotton	70/6
" No 4	14/6	Ordinary	50/6
" No 5	10/6	Cartain Cuttings	35/6
White Knitted	28/6	Stay	38/6
Muslins	18/6	Extra Light Prints	27/6
Extra Light Prints	20/6	Unbleached Cotton	60/6
Light Prints	14/6	Oxford	37/6
Dark Prints	6/6	Flannelletts	40/6
Blue Cottons, No 1	14/6	Blue Cotton	30/6

BALING TWINE

Hemp	1 st d per lb	1 st d per lb	1 st d per lb
Mixed	1 st d per lb	1 st d per lb	—

WASTE PAPERS.

In Press-packed bales for

	per cwt
Cream Shavings	16 0—18 0
Fine Shavings	16 0—18 0
Second Shavings	14 0
Cartridge Cuttings	18 0
Best One Cuts	20 0
White Woody Shavings	8 0—10 0
Manilla and Buff Cuttings	9 0—11 0
Woody One Cut	7 0—9 0
White Wood Pulp Cuttings	8 0—10 0
Pam Shavings (Light Colours)	10 0—12 0
Pam Shavings (Dark Colours)	5 0—8 0
Ledger Quire	9 0
Ledgers	10 0
Heavy Letter	8 0
Light Letter	4 0
Quire (Best)	9 0
Quire (Woody)	7 0
Best Pamphlets	5 0
White Woody Pamphlets	5 0
Woody Pams	3 6—5 0
News (Flat)	6 0
Crushed News	4 6
Kraft Browns	8 0
Light Browns	7 0
Mixed Browns	3 0
Leatherboard Cuttings	6 0
Coloured Cards	2 0
Strawboards	1 0
Mixed Papers	1 0

COLOURS. Nominal Prices nett, delivered in Press Packages

	Per Ton	£9 10 0
Mineral Black		
Carbon Black (English)	Per lb	0 10 0
*Carbon Black (American)		0 10 0
Ochre (English and Irish)	Per Ton	12 10 0
*Ochre (Spanish), splendid		
barrels gross weights,		
casks free		16 15 0
Red Oxide 65%		15 0 0
Red Oxide (Spanish)		20 0 0
Venetian Red		11 0 0
*Burnt Turkey Umber		27 10 0
*Brown Umber		10 10 0
Vandyke Brown Powder		25 0 0
Soluble Brown Crystals		24 0 0
Prussian Blue Paste 30/7	Per lb	0 1 0
Prussian Blue Powder		0 1 0
Bronze Blue		0 10 0
Chrome (Pure)	Per Ton	£150 0 0
Pure Zinc Oxide		38 0 0
Lithopone, 30/7		25 0 0
Paste Black 33/7		24 0 0

*According to Brand

ROSIN

Per cwt nett ex wharf London —

	B	FG	K	M	N	W	WW
American	16/	17/6	18/	18/	20/	22/	24/6
French			FG	H	WW	XW	WW
			14/-	14/-	17/-		

In barrels tare 20 per cent in casks tare 7 per cent

SIZING

Prices are nominally as under —

	Per cwt	130/6—185/6
English Gelatine		— 130/6
Foreign		100/6—125/6
Fine Scotch Glues		110/6—140/6
Best Long Scotch Glues		—
Common Black Glue		110/6—140/6
*Towin Glues		110/6—140/6
*Bone Glues		30/6—70/6
Foreign Glues		—
Bone Glue		—
Gelatine Size		—
Picker Waste	Per ton	£65—£70
Star Hide (Shavings, No 1)		65—70
Common Hide		45—50
Tanners' Wet Pieces		6—8

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Delivered

Mauve—Crisp	£20 0 0
Pearl	19 0 0
Powder	18 10 0
Special (1/2 cwt cases)	19 0 0
Farina—Special	19 0 0
Prime	19 0 0
Rice—Granulated (in bags 5 ton lots)	40 0 0
Powder	23 0 0
Dextrine—Superior	30 0 0
Malze	26 0 0

LOADINGS, etc

China Clay, in bulk f o b Cornwall 15s to 75s (highest grade) per ton. The extra charges (including filling) per ton, for bags and casks are: Single bags 15s 6d double bags, 27s 6d half ton casks, 31s 6d, quarter ton casks, 38s 6d, in casks, with extra iron hoops, 3s per ton more. For export, in ordinary 5 cwt casks, 120s 6d to 171s f o b Liverpool.

Talc (Norwegian), £8 14s 6d to £11 11s 10d, per ton according to quality, c i f Hull or Grimsby.

French Chalk, W E and W F G, and other brands, £7 15s 6d to £10 15s 6d per ton, according to quality delivered in most papermaking towns, also f o b Glasgow. Half at Manchester and London at same price.

Italian Chalk, finest brands—f o b Manchester Liverpool Belfast or London—I W A Portland Mills and "Swan" marks, £13 4s 6d to £15 per ton of 10 bags.

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Patent Hardening (a ton lots), f o r Lancs £6 17s 6d.

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Sulphate of Barytes, Crude No 1 £9 15s 6d No 2, £6 10s 6d No 3, £6 per ton, net carriage paid. If ground £3 10s 6d per ton extra.

Mineral White (also known as Terra Alba, and Sulphate Lime), per ton f o r at makers' works, less 5½% —
Superfine 1st and 2nd 75s—79s
Fine, best picked white, finely ground } 52s—53s

Fine, second quality
Pottery, best quality
Pottery, No 2 quality

Gypsum (Mineral), makers' works, 54½% —

No 1	72s	Seconds	44s
Pottery	72s	Thirds	30s
Ball Seconds	54s		

Terra Alba and Gypsum delivered any Lancashire or Yorkshire station about 21s per ton extra, except Manchester which is only 15s per ton extra. Delivered London stations about 14s 6d per ton extra.

Papermakers' Plaster, 43s and upwards per ton, less 5½% carriage paid.

Magnesite containing 94-96% Carbonate of Magnesia, raw ground £13 10s 6d calcined, £19 5s 6d.

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Paper Production Census.

The preliminary report of the census bureau on manufactures, comparing the number of plants and the value of their products for 1919 and 1914 gives the number of paper and wood pulp plants reporting in U.S.A. as 713 in 1919 as against 718 in 1914. The value of the 1919 product is given at \$789,548,000, as compared with \$332,147,000 in 1914. Other branches of the industry are reported as follows - Paper bags exclusive of those made in paper mills 75 plants as against 59 in 1914 and valued at \$47,264,000 as against a 1914 valuation of \$17,603,000, paper goods, not otherwise classified, 305 plants a decrease of five in five years with a value of product of \$101,473,000 as against \$48,871,000 in 1914, paper patterns 19 plants as against 25 in 1914, and a product value of \$1,526,000 as against \$3,026,000 in 1914, pulp goods 42 plants as against 24 in 1914, and a product valued at \$24,257,000 as compared with \$14,483,000 in 1914. Wall paper not made in paper mills 49 plants a gain of one in five years with a product valued at \$23,095,000 as against \$15,887,000 in 1914. The preliminary report is made subject to correction.

Blotting Paper.

Experiments having been made at the Testing Bureau with unsized paper, Dr Klemm proposed the adoption of a system for classification of this paper to replace that now in use. The latter consists in estimating the speed of capillary ascent in a band of paper 15 by 180 millimetres, after 10 minutes of imbibition, the height to which the coloured liquid ascends is noted.

The following scale would be applied

	No	Height of Liquid
Bad paper	0	less than 20 millimetres
Poor	1	20 to 40
Average	2	41 60
Good	3	61 90
Very good	4	91 120
Excellent	5	over 120

It is preferable according to Dr Klemm to estimate absorption in all directions. Thus the paper should be tested with drops to ascertain whether the paper absorbs regularly in all directions. Calculating the height gives no idea of the homogeneity of the paper. On the other hand, the laws of mechanics do not allow of any estimate of the uniformity of capillary velocity. Thus there is a reform to be made in classification of unsized paper.

The Federation of British Music Industries states that the Japanese Government has recently placed with two London publishing houses an extensive order for music to be used by the bands in the Japanese Army.

Pulp Pails.

Light and durable pails are made from wood pulp by the papier machie process. The pulp is made as if for paper then filled into an outer mould of sheet brass perforated with minute holes all over the surface. The mould has the form of the pail and an india rubber bag which is distended by hydraulic pressure is placed in the pulp thus driving out the water from the latter and forming the skin of the pail, which is dried at a temperature of 100 degs Fahr then trimmed, and dipped in raw linseed oil. After this the pails are baked at a temperature of 10 degs Fahr, the oil being oxidised and the pulp transformed into a leathery material capable of resisting corrosion. The pails are finally varnished and ornamented.

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FORTY-SECOND YEAR

**VOLUME 78
NUMBER 18**

LONDON OCTOBER 7, 1921

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EVERY FRIDAY**



THE improvement in trade noted last week has been well maintained up to the time of writing. Small orders are much more prevalent and printers and manufacturing stationers are already finding fuller employment. There is distinct movement in the home trade shipping and hard goods sections of our trade and advertising is being more freely resorted to as the winter season approaches. Paper and print are directly affected, inasmuch as stationery and publicity matter are the first requirement. That is where the smaller orders are coming from. The larger paper using interests are still dormant: the publishing trades, banks, corporations and the Government. Of these the first named is likely to be the earliest in the field, despite the doleful cry against the labour wage. Already a prominent publisher announces a bold venture in half crown standard works, and although another very well known publishing house advertises the necessity of producing its cheaper editions in Germany, we may take it for granted that when the wheels of industry are turning more smoothly here, the demand for books will grow sufficiently to enable home production to be resumed.

It is a well known fact that the Stationery Office is exceedingly well stocked in paper. Apart from this there is the economy stunt operating against everything in officialdom.

Banks and corporations are so well stocked in stationery (bought in prosperous days in anticipation of a five years boom and probable branch development) that their buying activities are curtailed for some time to come. Viewed in this light, it is well to be cautious in our attitude towards the present improvement and the future trend. The approach to normal demand will be slow, gradual, and entirely dependent on the general trade recovery of the country. Until international unrest subsides and the fundamentals of chaos are probed and removed, normal trade will be impossible in this or any other country. All the superficial prosperity of Germany is but the precursor of ultimate realisation of the hard fact of economic laws and their reaction. The sooner the reaction comes and the sooner we ourselves begin to understand the elements of international correlation, the speedier will be the return to normal post war conditions.

THERE may be some satisfaction to home papermakers in the statement that British paper is holding its own against foreign competition in our colonies. Naturally, however, is down all round, but at least we have not declined so heavily as some of our foreign competitors. Now it is practically an accomplished fact that the new Australian tariff favours our own mills to a great extent, though perhaps not so greatly as some exporters would desire. The other side of the picture is that Canada considers herself aggrieved by the disproportionate tariff levied on the paper which she would like to export.

THE situation in regard to paper and the Safeguarding Act is much clearer in the case of official correspondence and printing. At the moment there is no...

likelihood of paper coming within the scope of the Act. Even when the prospect becomes more tangible which might never be the case, long notice may confidently be anticipated by the merchant or consumer with foreign commitments. In the first place, the claim for protection must be put forward and sifted after which the Board of Trade Committee must investigate the probable effect of a tariff on other trades or industries affected by any Regulation touching the raw material. Finally it is open to the consumer or merchant to lodge a counter claim against the inclusion of paper under the Act. The Government contend that all this procedure shall be gone through in a short space of time. The ordinary layman can be excused for thinking that the contrary may be the case. In the event of paper coming within the category, importers would have fourteen days grace from the passing of the Order. This combined with the period requisite for consideration of claim, counterclaim and investigation should amply serve to remove all fear of entanglement in foreign commitments.

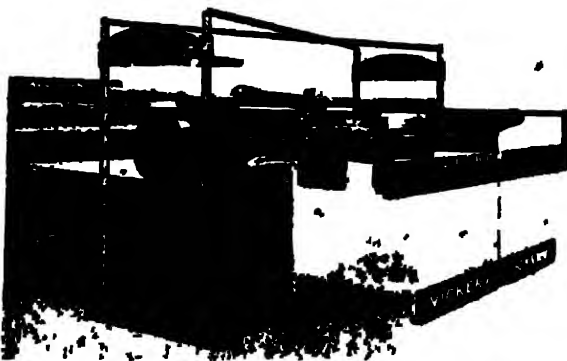
At last then appears to be someone who realises the importance of introducing Costing as a subject worthy of discussion in the paper making industry. According to syllabus Mr Leslie Farrow of Wiggins Teape's is to read a paper at the last meeting of the winter session of the London Division of the Technical Section. Personally we do not regard costing as a subject within the province of this Section which is mainly constituted to deal with chemical and engineering progress and manufacturing efficiency. Costing along with organisation and management is a

branch of the industry for which we hope to see a separate section inaugurated. There is work to do which would permanently engage the attention of such a body. However, it will be a good thing to have the importance of the subject brought to light in any quarter and for this reason we look forward to a verbatim report of the paper which Mr Farrow will read.

* * *

THERE has been an upward movement in kraft wrapping within the last week. The selling price is now in the region of £35, as against £30 and even less a short time back. It is rumoured that the Swedish Convention are determined to approximate quotations more closely to cost of production. Compared with any other grade of paper, kraft at £35 is quite a reasonable comparison with pre-war figures. The downward movement in E.S. papers has also been arrested and prices are now stable at a figure which roughly corresponds to little over 100 per cent on pre-war. This low level is not justified by actual costs which are certainly in the region of 125 per cent on pre-war. However it is all part and parcel of the effort to accelerate business and force down the price. Printers and paper users generally cannot claim to have done quite so much as this as their contribution to the same end.

According to the President of the Swiss Confederation the Swiss Government desires a thorough discussion of the new import tariff. Consequently, says the Geneva correspondent of *The Times* (Trade Supplement), it does not appear possible that the import duties introduced in July will be further legalised. On the contrary, they are likely to be radically altered.



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Quality of Product Depends upon the Type Selected

Divergent views are held regarding the kind of drive which is best suited to the paper machine, and the advocates of the sectionalised electric methods are pressing their case forward. The problem was the subject of an article prepared by Mr H W Rogers (General Electric Co) and printed in the *Paper Trade Journal* (N.Y.) from which we quote the following —

The paper machine is without doubt the most important machine in the paper industry as the entire production of paper is dependent upon it. Consequently too much attention cannot be given to this machine.

The quality of the product depends very much upon the type of drive selected and the proper application of it with respect to the machine. Speed regulation, flexibility of control and uninterrupted service are all important factors and must be given careful consideration. For this reason it is desirable to have the paper machine and its drive a complete unit in itself independent of the rest of the mill so that trouble in the rest of the mill will not result in any interruption in the actual production of paper.

There are certain parts of every paper machine which run at a constant speed regardless of the speed at which the paper is being produced and these parts consisting of the wheels, pumps, suction and agitators constitute what is commonly called the constant speed end of the machine. It is not strictly true to say that the constant speed end is independent of the variable speed end of the paper machine as the speed at which it operates and the power required are largely determined by the maximum speed at which it is intended to make paper. However, the drive of this end of the machine presents no difficulties whatever in its application and requires very little attention.

The variable speed end of the machine consists of a number of sections which have been

in the past and are very largely at the present time being driven from a single line shaft through a system of cone pulleys and bevel gears with friction clutches for starting and stopping each individual section separately if occasion requires.

Variable Speeds.

A great deal of time and study has been devoted to the driving of the variable speed end of a paper machine and indeed it is no mean task because the requirements are very exacting. The stock enters the machine at the wet end on the couch or wire and consists of probably 99 per cent water and 1 per cent stock. Here the sheet is formed and a large part of the water removed after which it passes through one or more presses and over the dryers and finally through the calenders to the reel and rewinder as finished paper with probably not more than 5 per cent moisture. A continuous sheet must therefore be maintained throughout the machine and owing to its condition there is a slight difference in speed between each section which must be maintained absolutely. This difference in speed is called draw and varies from time to time depending upon the condition of the stock and of the atmosphere and must of necessity be capable of adjustment.

The drive must not only permit of a very close speed regulation, but must also permit of adjusting the draw between sections and at the same time absolutely maintain the relative speeds of the various sections.

Mechanical Drive Limitations

In the past it has been the practice to use steam engines with mechanical speed changing devices, belts, cone pulleys, gears, etc. and although there are at present a large number of electric motor drives in operation there have been of the single motor type mostly with the same mechanical contrivances, and have operated very successfully.

The mechanical drive, however, has its limitations and the recent demand for news print has resulted in the high speed paper machine and the development of the sectional drive which has occupied the attention of engineers for years. It is claimed by some authorities that the present mechanical drive has reached its limit so far as speed possible.

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ties are concerned, although speeds in excess of 900 feet per minute have been attained, and that for further development we must look to some other type of drive. The sectional drive has therefore, far reaching possibilities, as there is no limit to the speed at which it will operate. Furthermore, the use of this type of drive has made it possible to secure a large amount of valuable data pertaining to the segregation of power and percentage of draw which has not heretofore been possible.

Flexibility of Control

The advantages of this drive lie in its flexibility of control, the elimination of line shafting, cone pulleys, belts, gears, clutches and coincident maintenance. The elimination of the back line shaft and the mechanical drive is in itself a large item as the maintenance of it is rather heavy. It has not been customary to keep segregated maintenance costs in the past but this is now being done by some mills and it has been found that the oil and maintenance on the back line shaft of the paper machine alone approximates 25 to 30 cents for every ton of paper manufactured. This in itself is a large item and warrants the expenditure of considerable money in its elimination. In addition to this there is every possibility that the force of millwrights can be reduced if the mechanical drive is done away with. There are, therefore, a number of indirect savings which are sometimes lost sight of when a sectional drive is considered which are all in favour of it.

The sectionalised drive described by Mr. Rogers consists essentially of a two motor unit driving each section but automatically regulated and controlled so the whole machine operates as a single body. Each section unit consists of a direct current motor and a synchronous motor of about 20 per cent of the capacity of the direct current motor. The synchronous motor is driven from the direct current motor through a gear reduction and a set of cones which permit a total range in speed of about 12 per cent. All the motor units are driven from a single generator the

direct current motors being connected in multiple from the generator bus. By this system the paper machine can be started as a single unit, and brought up to speed.

Variation Should Remain Constant

It is highly important that the percentage of speed variation between the sections should remain constant whatever the speed of the machine as a whole. This is accomplished in this drive by making the synchronous motors function somewhat as a governor with the difference that a governor acts after something has happened while this method prevents it from happening.

The synchronous motors are all connected to a common dead bus, being excited from a bus connected to the main generator exciter. The required percentage of speed variation is obtained by adjusting a belt on the cones. Any tendency to change in speed, on the part of the D.C. motor on any particular section due to change in load or other cause is corrected as follows. Should the D.C. motor speed up because the load lightens the synchronous motor of that unit will act as a generator imposing a drag on the D.C. motor until the speed drops to normal. If the D.C. motor slows down, its synchronous motor will act as a motor and all the other synchronous motors as generators which will help to bring the D.C. motor back to its normal speed.

Control of the Drive

Control of the drive is as follows. Each direct current motor has a drum controller and a rheostat in its circuit for individual starting the last point of this controller being in the circuit which connects the synchronous motor to the dead bus. When starting the paper machine as a whole the drum controllers on the D.C. motors should all be on the last point with the synchronous motors connected to the dead bus. A start button on the auxiliary panel closes a contactor on the generator panel, applying low voltage to all the D.C. motors. To bring the machine up to speed the generator held is strengthened by the rheostat on the auxiliary control panel.

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Paper in South Africa.

Prospects of Manufacture

The Consulate of Finland at Cape Town reports that South Africa is at present entirely dependent upon imports of paper as there are no mills in the country. Newspaper statements however, assert that the first paper mill will shortly begin production at Germiston, in the Transvaal, though the output will at first be restricted to the manufacture of wrapping paper from raw materials obtained chiefly from South America.

The consumption of paper in South Africa the report proceeds, is small as compared with that in European countries. During 1920 the imports of paper into the Union amounted to slightly over 2000 tons of the value of £1,500,000, of which 15,000 tons were printing paper and 2,500 tons wrapping paper.

The most important exporting countries to South Africa were England, Canada, the United States, Sweden and Norway, but a value of only £4,300 was received from Finland in 1920. The competition of Germany, which occupied a prominent position before the war, has now been resumed, says a correspondent of the *Manchester Guardian Commercial*. At present complete stagnation prevails in the paper trade as most of the newspapers have contracts which run to the end of this year but fresh orders for next year will have to be entered into in September and October. News print is now being offered in Cape Town at £30 per ton as compared with £90 per ton a year ago.

Referring to the establishment of a paper mill in the Union, *South Africa* says:—The first suggestion of a paper mill in South Africa dates back to 1913 when the intention was to use the natural grasses of the country. This and many later propositions have fallen through largely on account of the expense entailed in collecting the raw material and centralising it at a suitable place for distribution over the Union. Since that date the face of South Africa has changed, especially that of Natal where the country is now covered by thousands upon thousands of acres of wattle

trees. A dozen wattle extract mills have sprung up beside some of which huge heaps of spent tan, bark from which the extract has been taken, bear testimony to the large amount of bark used in this industry. Thousands of tons of the wood itself are burnt annually for want of a better market and it is only those whose plantations are in close proximity to the railway who can depend upon a payable price for their timber. Experiments have been tried with the waste bark from the English tanneries, and fairly satisfactory paper has been produced from this material, but the experiments lately carried out on behalf of the Albert Falls Power Co., Ltd., of Maritzburg Natal by their expert, Mr. F. Heverdahl, have proved that excellent paper can be produced both from the spent tan and also from the wattle wood if the bark is fresh from the mill and any paper concern which hopes for success must have its mill situated in the centre of the wattle extract industry and beside a goodly supply of water.

As announced in our issue of September 16th the Albert Falls Power Co., Ltd. have now formed a subsidiary company called the South African Paper Mills Ltd. who are about to erect an up to date paper mill at Albert Falls which is situated right in the centre of the wattle area on the railway line and beside the Umgeni River from which an ample supply of water is procurable both for power and mill purposes. We understand that the new company do not intend to confine themselves entirely to wattle by-products for their raw material but will also use a certain amount of tambuki grass which along with the wattle wood will produce white paper. Their chief product for some time at least will however be kraft wrapping paper, of which they expect to turn out about 6,000 tons per annum.

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Conditions Affected by Slackness in Paper Trade

Unfortunately so far as the European paper market is concerned, it is as yet impossible to discern any animation worth mentioning. On the contrary the paper mills still grumble over the lack of orders. Only news print mills are approximately fully employed, a large number of the other paper mills have again been obliged to stop a paper machine here and there which was getting only a short time ago. It is hardly possible to explain this reserve on the part of the buyers says *Scensh Tidning* except on the supposition that they apprehend a further fall in prices, and therefore do not choose to expose themselves to losses but prefer to bide their time and are for the present willing only to cover the needs for the day.

From the paper market in U.S.A., however the reports are pretty satisfactory and there is every indication that the paper mills there can look to the autumn with confidence and are making preparations for an increased demand.

Few Sales of Cellulose

As a consequence of the drooping tendency of the European paper market it has practically been impossible to effect any new sales of cellulose either to England or to the Continent. The few orders that have come into the market have still been taken by the Finnish factories at prices with which the Swedish sellers cannot compete after the latest fall in the Finnish exchanges.

On the other hand deliveries on account of current contracts have been very considerable and England alone according to the official statistics has imported 44,802 tons of bleached and unbleached chemical wood pulp from

Sweden during August while the imports during the same month last year reached only 33,135 tons.

The quotations for both sulphite and sulphate cellulose have been practically unchanged at about Kr 275-300 per ton f.o.b. for easy bleaching sulphite, Kr 240-265 per ton f.o.b. for strong bleaching sulphite, and Kr 200-210 per ton f.o.b. for kraft pulp.

The demand from U.S.A. continues to be very good and the prices have been extremely firm with a faint tendency to rise. Thus strong sulphite has fetched from \$2.50 up to \$2.70 per 100 lbs. ex dock, and kraft pulp \$2.25 up to \$2.50 per 100 lbs.

It has aroused a certain amount of astonishment in manufacturing circles in Sweden that the American customs authorities before admitting pulp, have in certain cases demanded a guarantee for the possible anti dumping customs duty. The anti dumping law recently passed, however could scarcely be applied to Swedish cellulose for the prices obtained on the American market are the same as those quoted on others including the home market. In certain cases indeed, even higher prices have been reached in U.S.A. than in Europe so that there can absolutely be no talk of dumping on the American market.

Mechanical Wood Pulp

The tone on the mechanical wood pulp market is more hopeful than on the cellulose market and a boom in sales is generally expected before long, for reports from England the Continent and America are tolerably well in accord with regard to stocks in the hands of buyers which are alleged to have been considerably reduced, at the same time the demand for news print and printings is good. Especially from Norway a number of pretty large sales of wet pulp have been concluded and the Norwegian quotations for the day keep about 100 Norwegian crowns per ton f.o.b.

The Swedish quotations for wet pulp are—Kr 55-60 per ton f.o.b. west coast port, Kr 50

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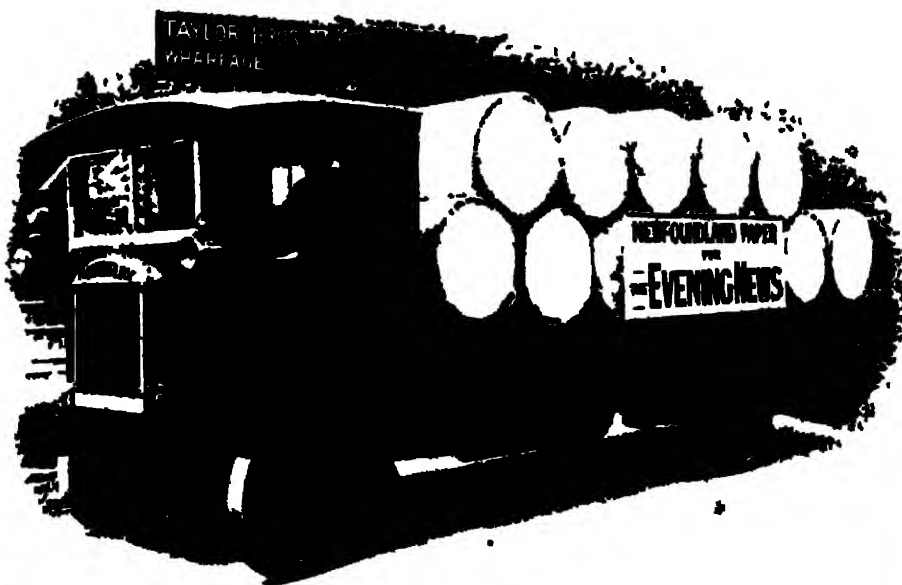
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55 per ton l o b east coast port, with a slowly rising tendency

Owing to the competition from Finland it has scarcely been possible to conclude any sales of dry pulp during the last few weeks. It is stated that the Finnish grinders quote for their dry pulp 1200-1,300 Finnish marks per ton l o b. In view of the low exchange value of the Finnish mark the Swedish grinders who do not choose to lower their prices below 110-125 kr per ton cannot count upon any sales worth mentioning.

The Freight Market

After the forced shipments of July and August the wood pulp freight market has become very quiet and destitute of cargoes. Of course there are sporadic cargoes here and there but these are immediately snapped up at rates that can scarcely be said to correspond to the true state of the market. As regards the River Thames one can count without risk on from 19s to 18s for wet and soft of dry pulp as far north as the Ulmei district. Quantitatively enough the freights for F.C.C.P. and Scotland are always one or two shillings more but in that case it is mostly a matter of small and exact quantities. However tonnage ought to be obtainable without difficulty at 20s for ordinary cargoes and prompt shipment and also 18s and also 18 6d 19s for cargo of about 1500 tons with a certain amount of margin from say two loading places at most to the west of England especially Preston. Tonnage can be obtained without difficulty at 25s per ton for parcels of any appreciable size.

Before last open water it is true there are many parcels of pulp left over from earlier contracts to be shipped but no great animation can be counted on for this market for this year especially with regard to the United Kingdom and the Continent.

While the European market is very quiet there is all the greater animation in the shipments to North America and during the last few weeks about 20,000-30,000 tons have been shipped. The Swedish liner companies have

raised their earlier freights namely, \$4 for wet and 50 ft dry pulp to \$4.50 and \$5.50 for paper but probably in the case of further shipments they will not accept less than \$5 and \$6.50 respectively. American liners on the other hand, have for some time past quoted \$4 for wet and \$5 for dry soft pulp and \$5.50 for paper but they have quite recently stuck on \$1 more to these quotations.

Most of the pulp however, has been shipped by American steamers in the open market, which have accepted \$4 for wet and 50 ft dry pulp and \$4.50-5 for paper but these too have now raised their quotations to \$5 for pulp up to 55 ft \$6 up to 65-70 ft and \$7 for paper and pulp of greater volume. But there is still about 9,000-10,000 tons in the market to be chartered for, and it remains to be seen whether shippers will have to pay these freights or whether Scandinavian tonnage will compete.

Paper Manufacture in Malay States.

Reporting on the industries of the Federated Malay States Mr W. George Maxwell the new Chief Secretary states that the Malayan China Clay and Pottery Co. Ltd. is producing 20 tons of china clay per day from an experimental plant at Gopeng in Perak where large works are to be installed. The Government has also under consideration applications for concessions of paper and pulp making from bamboo and lalang grass and of alcohol (for motor spirit) from the nipah palm. Exclusive rights for a wood distillation business were granted in Pahang and a company known as Malay Malacca Ltd. has erected its premises in the States and has its machinery ready for erection.

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Production

According to a compilation by the Federal Trade Commission, Washington the total production of news print in August was 102,277 net tons and of standard news 95,105

The average production of total news print and standard 'news, based upon the total combined production for the years 1918, 1919 and 1920, amounted to 121,959 tons of total news print and 109,782 tons of standard 'news, for a period corresponding to August. The actual production amounted to 102,277 tons of total news print and 95,105 tons of standard 'news, which for total news print was 16 per cent below the average for the three year period and for standard news about 13 per cent below the average.

The production of news print for August 1921 compared with August 1920 shows a decrease amounting to about 21 per cent for total news print and about 19 per cent for standard 'news. The production for August 1921, compared with August, 1919 shows a decrease of about 10 per cent for total news print and a decrease of about 7 per cent for standard news. The decrease of production for August 1921, over August 1918 amounted to 10 per cent for total news print and 7 per cent for standard news. Mill stocks of both total news print and standard 'news increased during August 1921.

Average Prices Paid by Publishers

The weighted average price of contract deliveries from domestic mills to publishers during August 1921 f o b mill, in carload lots for standard 'news in rolls was \$4.762 per 100 pounds. This weighted average is based upon August deliveries of about 48,000 tons on contract involving a total tonnage of approximately 475,000 tons of undelivered paper manufactured in the United States.

The weighted average contract prices based on deliveries from Canadian mills of about 28,000 tons of standard roll news in carload lots f o b mill in August 1921 was \$4.378 per pound. This weighted average is based upon

the August deliveries on contracts involving about 200,000 tons of undelivered Canadian paper.

The weighted average market price for August of standard roll news in carload lots f o b mill, based upon domestic purchases totalling about 5,000 tons was \$5.160 per 100 pounds.

Prices and Business

The Need for Economic Printing

The need for cheaper printing as a means to reviving demand for paper and allied products is urged by *L'Esper* and *Progres*, the house organ of Messrs Strong, Hanbury and Co. Ltd.

The one vital fact to be borne in mind we are told, is that to day there is universal complaint that the price of printing is too high. The decrease which has taken place in the cost of paper naturally reflects a reduction in the price for printed matter but whilst an economic labour cost is maintained we cannot expect to see the world of print freed from inactivity. There is of course, certain work which must be executed under any conditions but even in these instances, whilst such tempting terms are offered from the continent a certain percentage of whatever work there is will be bound to find its way thither.

Whichever way it is looked at, the secret of the future prosperity of the country lies in reduced prices and we venture to think that no trade or industry can long exist whilst it taints or endeavouring to retain its wages at the same point as that which prevailed during the period of the greatest inflation.

There is at the time of writing an undoubted movement in the trade which with some assistance would we believe mark the starting point of a real recovery. It is not of course possible that in instantaneous revival on a large scale can be achieved yet we feel convinced that coming at the same time as this slight improvement in conditions a reduction in prices could have only one effect—and that would be very substantially to influence a rejuvenation of business.

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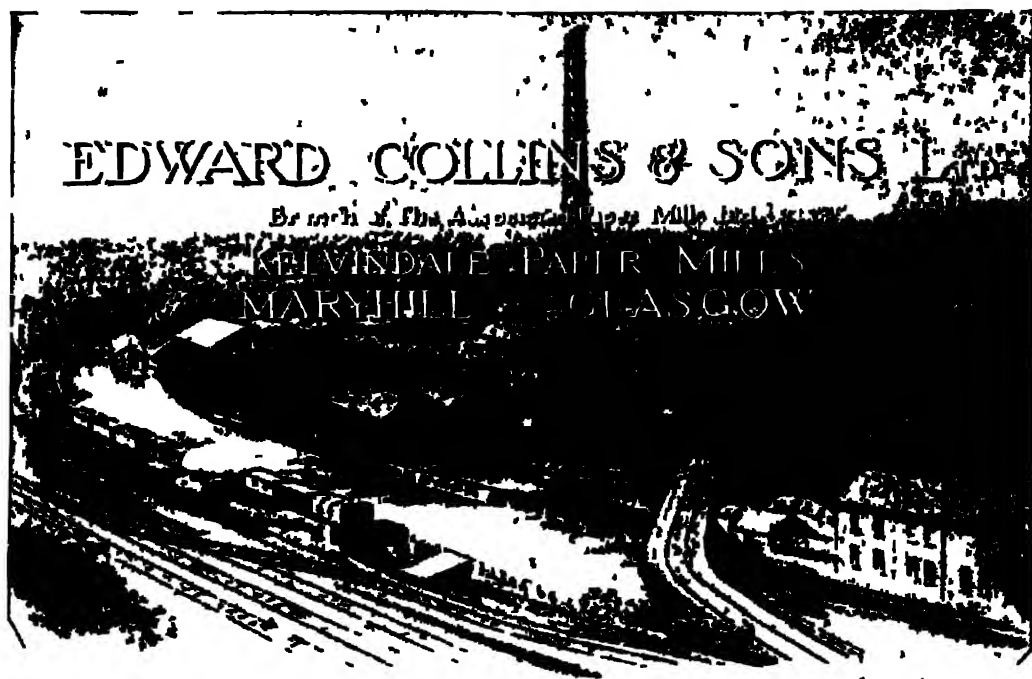
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Canadian Pulp and Paper.

August Export Figures

Canadian pulp and paper exports for August reached a total value of \$9,395,397, a decline of \$8863,336 as compared with August 1920 but an increase of \$2,628,835 over the preceding month of July. They were the highest for any month of the current fiscal year and appear to confirm the view that the tide has definitely turned in an upward direction. The shrinkage under last year's figures is more apparent in values than in volume as the following statement shows —

August, 1920	Gwts	Dols
Book paper	5084	65,293
News print	1,419,024	7,301,601
Other paper	—	1,480,919
Total		4,746,017
August, 1921	Gwts	Dols
Book paper	964	11,349
News print	1,306,424	6,015,300
Other paper	—	223,643
Total		6,250,347

A comparison of pulp exports for the two months shows —

August, 1920	Gwts	Dols
Sulphate	267,419	1,244,366
Bleached sulphite	191,640	1,095,001
Unbleached sulphite	774,441	1,420,278
Groundwood	416,041	1,409,266
Total	1,549,541	5,111,911
August, 1921	Gwts	Dols
Sulphate	112,674	547,614
Bleached sulphite	144,941	844,441
Unbleached sulphite	144,118	459,281
Groundwood	436,511	1,224,654
Total	1,848,244	3,146,094

Countries of destination were — Paper United Kingdom \$79,511 United States \$5,641,274 other countries \$529,552 Pulp United Kingdom \$879,354 United States, \$1,909,491 other countries \$356,209

For the first five months of the current fiscal year the comparative figures are

	Paper Dols	Pulp Dols	Total Dols
1921	27,604,901	12,121,779	39,726,680
1920	31,702,271	10,987,008	42,689,279
1919	23,561,667	12,893,743	36,455,410

Pulp wood to the amount of 8737 cords, valued at \$176,035 was shipped to the United States during August compared with 133,464 cords valued at \$1,695,044 in August

1920 During the five months' period the volume and value of pulp-wood exported to the United States was as follows — 1921, 371,780 cords, valued at \$4,882,365, 1920, 501,315 cords, valued at \$5,756,464, 1919, 425,974 cords, valued at \$4,205,118

History

Lord Beaverbrook and Recent Fluctuations

Writing of the progress of the *Sunday Express* newspaper Lord Beaverbrook refers to events in the news print industry since 1919. In that year he says, there was a regular panic about the supply of news print the raw material of the publishing industry. Not only was there an actual scarcity but this scarcity was greatly exaggerated in the minds of the buyers concerned. Publicists conjured up in their minds the bleak picture of a day when they would be no longer able to feed the roaring hungry presses with the daily meal of news print and when subscribers in the morning would ask for their favourite journal in vain. So much is the reading of the public a matter of acquired habit that a newspaper which suspends publication signs its own death warrant. Its kingdom is taken from it for ever and given to some Medea or Persian over the way.

The news print buyers therefore tumbled over one another into the market to secure their future. Prices went soaring up sky high. It was a great era for the news print manufacturing trade. In 1914 news print cost £10. In 1919 the ton was sold for £60. Such an inflated price could not of course last but the trouble did not end with an increase in the news print supply.

In their nervousness of the future the buyers allowed themselves to agree to long contracts, lasting in many cases right into 1927. In other words though news print can now be bought freely in the open market at £20 a ton the newspapers with contracts are still paying £35 to £40 a ton. Such conditions are a tremendous handicap to any venture.

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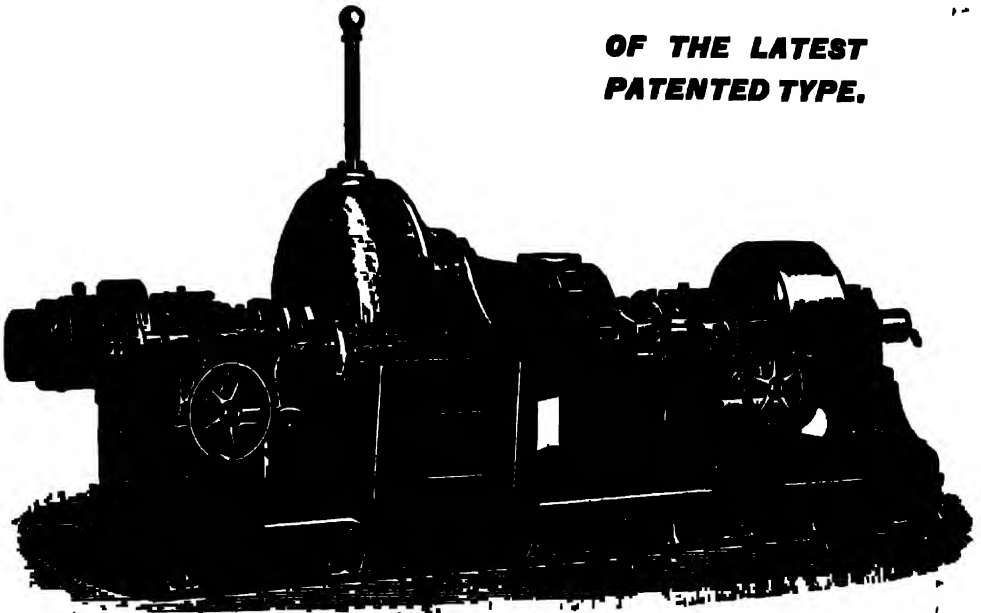
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U S Government Scheme Analysed

Not only in this country, but in the United States is the question of standardisation of paper receiving attention, and Mr Waldon Fawcett has been examining the scheme adopted by the American Government in respect of their paper purchases, which will remain in force until 1922.

Printing papers are by this standardisation subdivided into white news print, coloured news print, machine finish printing, plant fibre machine finish printing, antique printing, opaque printing, high machine finish, rag machine finish printing sized and super-calendered printing and half tone printing.

"Coated Book" carries the classifications double coated one side book single coated and double coated both side book.

Writings have standardised groupings of white French folio, white and coloured high machine finish, white and coloured writing tub sized, air or loft dried fine white writing tub sized and loft dried and safety writing machine finish.

The 'Bonds' show thin bond, white and coloured, glazed and unglazed tub sized, machine or air dried. The same range is shown in stationery bond and in fine white bond.

In the 'Ledgers', the classification steps include white commercial ledger and coloured commercial ledger each tub sized, air or loft dried white and coloured ledgers respectively, carrying the stipulation tub sized and loft dried, and heavy ledger, white and coloured single ply.

'Covers' entail smooth covers, rough covers, coated covers and cloth lined covers.

In the Government's standard specifications the form of expression is one indicative of a minimum or limitation rather than a precise stipulation. Thus we see the demand that the thickness shall not be less than a specified fraction of an inch, that strength shall not be less than so many points, that ash shall not exceed an indicated percentage, that the stock shall have a certain proportion of rag,

and so on. The specifications are not intended as formulae for the manufacture of the several kinds of paper, but as descriptions of the lowest grades that will be accepted.

The governmental paper standards incorporate some features that might not be universally accepted in commercial practice. For example, the standard of plant fibre, machine finish printing paper (of which the Government proposes to purchase 1,000,000 pounds during the next six months) was established to encourage the commercial production of paper made from domestic corn and cotton stalks, flax and cereal straws, wild and cultivated grasses and other plants not now used in making paper.

Inasmuch as the Paper Committee of the National Association of Purchasing Agents has lately issued recommendations for standard packing papers, both in rolls and sheets, it may be worthy of passing comment that the Government is essaying standardisation in this same quarter. Dry lumber not less than $\frac{1}{8}$ of an inch thick is specified for packing cases. Flat paper is required to be put up flat, approximately 600 pounds to the case of even reams. Coated paper must, according to the standard programme, be packed with heavy binders boards, top and bottom of the case. Uncle Sam does not countenance a variation above the ordered ream weight of more than 5 per cent. It is the Government practice to have the Public Printer not only supply all cores (3 to 6 inches diameter) for roll paper but to supply the labels for all cases and rolls.

In conclusion, it may be noted, as a source of satisfaction to the paper industry, that if the time is coming when all purchases will be made on "standards" and when, perhaps the Government will attest to private buyers "certified standards of quality," there will be reward for the foresight which has prompted the paper industry to meet the issue of standardisation squarely and in good season.

UNSTINTED admiration is general for men who can and "do, who say I will and then make their words a deed—who put things over, have confidence in themselves and back their assertions and pledges with industry and achievements.

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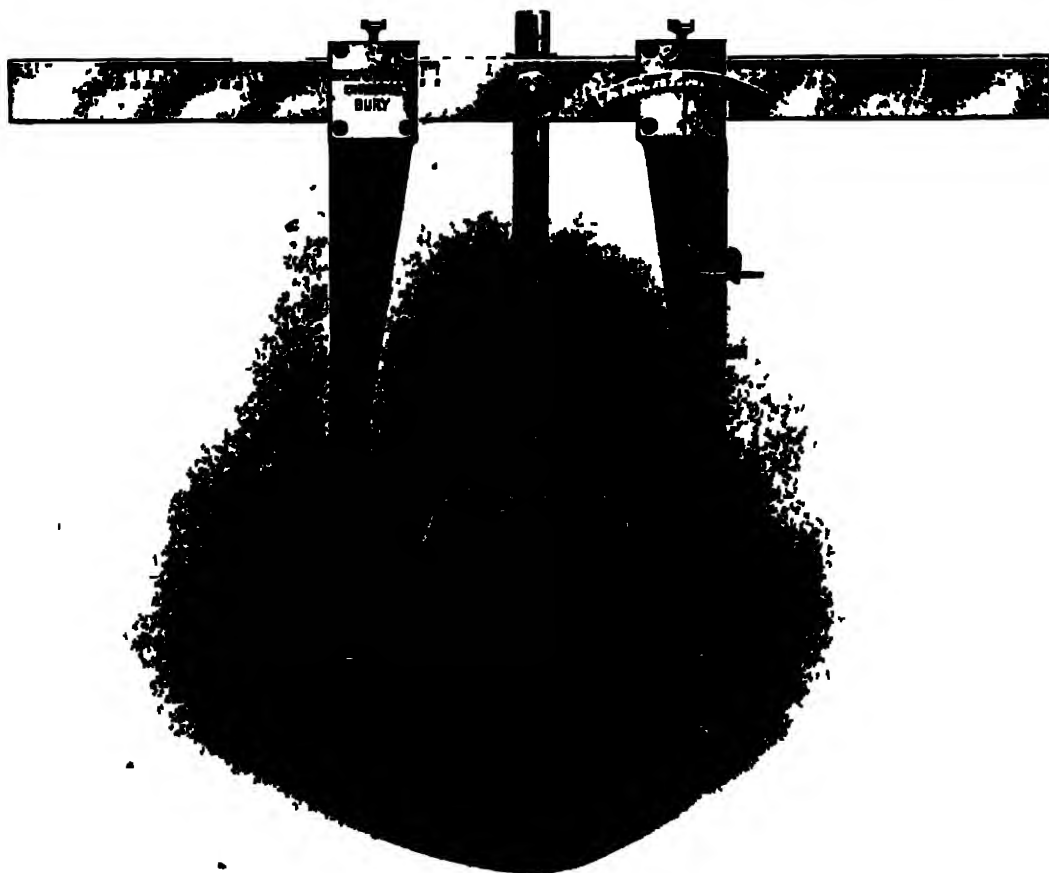
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GERMANY'S Paper Imports and Exports IN 1920

The following returns show Germany's imports and exports of paper in 1920, the figures representing hundreds of kilograms (220.46 lb) —

PRINTING PAPER (uncoloured or dyed in the pulp) — Imports 12,109 of which Finland sent 10,177 and other countries 1,932. Exports 454,692 (323,381,000M) of which 15,510 went to Danzig, 15,059 to Saar district 82,844 to Netherlands, 10,149 to East Poland 5,278 to West Poland 48,957 to South America 102,923 to U.S.A. and 173,973 to other countries.

CARDBOARDS (not drawing cardboard) Imports 635 of which Finland sent 404 and other countries 231.

BLOTTING (except coarse grey filters) — Imports 565. Exports 6,587 (4,312,000M), of which 160 were sent to the Saar district 1,879 to Holland, 135 to East Poland 132 to Sweden 363 to Spain 511 to South America and 3,407 to other countries.

PACKING PAPER (dyed in the pulp) — Imports 14,075, of which Memel sent 3,857 Czecho Slovakia 2,150, Scandinavia 4,612 other countries 3,456.

PACKING PAPER (all sorts, except tissues over 30 grm per sq M and parchment substitutes) — Imports 14,686 of which Czecho Slovakia sent 3,734, Scandinavia 8,083 other countries 2,869.

PACKING PAPER (including tissue over 30 grm per sq M and the yellow straw papers) — Exports — 617,689 (519,789,000M) of which 52,422 were sent to Belgium 18,969 to Denmark, 30,915 to France 72,050 to Great Britain,

209,530 to the Netherlands, 5,996 to Norway, 8,511 to East Poland, 5,181 to Jugoslavia, 75,841 to Switzerland 22,856 to U.S.A. and 114,518 to other countries.

PARCHMENT — Imports 172. Exports 11,723 (24,019,000M), of which 2,760 were sent to Denmark, 3,788 to Holland, 1,029 to Switzerland 212 to U.S.A., other countries 3,934.

WRITINGS (hand made and music papers) — Imports 12,135 of which Finland sent 9,325 and other countries 2,810.

DRAWINGS AND DRAWING CARDBOARDS — Imports 79.

TISSUES (not over 30 grm per sq M) — Imports 6,177, of which Czecho Slovakia sent 4,790 and other countries 1,387. Exports 36,921 (76,629,000M) of which 954 were sent to Belgium, 1,315 to Denmark, 1,693 to France, 5,091 to Great Britain 10,577 to Holland, 1,263 to Czecho Slovakia 1,165 to East Poland 1,266 to Sweden, 4,315 to Switzerland, and other countries 9,282.

RAW PHOTOGRAPHIC PAPERS (felt, wall and other papers) — Imports 307.

WRITINGS, HAND MADE, MUSIC, DRAWING CARDBOARDS, RAW PHOTOGRAPHIC, FELT WALL AND OTHER UNSPECIFIED PAPERS — Exports 278,662 (393,615,000M) of which 8,966 were sent to Belgium 20,989 to Great Britain 66,567 to Holland, 11,437 to Austria 5,544 to East Poland, 26,958 to Switzerland, and 100,454 to other countries.

VARIOUSLY COLOURED PAPERS (varnished, enamelled, chalk coated, and metallic papers) — Imports 156. Exports 114,224 (187,240,000M), of which 14,553 were sent to Great Britain 21,762 to Holland, 4,189 to Czecho Slovakia 3,429 to Sweden, 12,021 to Switzerland 4,877 to East Asia, 17,103 to South America and 33,290 to other countries.

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SAMPLES AND QUOTATIONS ON APPLICATION.

Czecho-Slovakia.

Important information is contained in the series of reports on the industrial and economic situation in various countries issued by the Department of Overseas Trade. Especially is this the case in regard to the new states which have arisen in Europe. The position occupied by Czecho-Slovakia is of particular interest to paper people in this country on account of the number of paper mills which are included in the territory. The report just issued by the Department of Overseas Trade is written by Mr R H Brice Lockhart, Commercial Secretary to H M Legation Prague, but he has nothing to say regarding the paper industry except to give statistics of the paper imported and exported.

It is interesting to learn, however with regard to the general trade aspect, that, like England, Czecho-Slovakia is an industrial State which lives or falls by its export trade. It must never be forgotten that, if by the Peace Treaty the Czechs became possessed of 80 per cent of the industry of the former Austrian Empire they have also lost some 50 or 60 per cent of their former markets. In other words 80 per cent of the Austrian industry was concentrated in Bohemia. This industry, which was protected by a tariff against Germany and which formerly had its best markets among the 45 million inhabitants of the former Austrian Empire, has to day a home market of less than 14 millions. The Czecho-Slovak State has therefore an industry far too large for its own needs. These needs it is estimated can be covered by, roughly, 30 to 35 per cent of the normal production. This shows how largely Czech industry is dependent on export for its existence. Not only have the old markets to be reconquered, and reconquered now, without any tariff privileges against German and Austrian competition, but owing to the low purchasing power of most of the neighbouring states new markets have to be discovered. Western Europe, which has its own industrial and export crisis, does not offer a favourable field, and the hopes of Czech manufacturers are directed to Russia and to the Balkans. The former however offers no immediate scope, and in the meantime Czech industry must exist.

The restoration of normal conditions in Central Europe must be the work of the Central European States themselves, and the key to the whole problem lies in a closer and more friendly co-operation between the various Succession States. The Czechs have been blamed for hindering this policy of co-operation, but a careful and unbiased study of the facts leads one to the conclusion that these accusations are, to a large extent, very one-sided. The crux of the position lies in the question of transport facilities in Central Europe. If transport could be restored to normal conditions and a more serious effort made to break down the artificial barriers

created by political severances and sustained by the policy of mutual blockade between the States, much could be done to relieve the economic situation, not only of Czecho-Slovakia but also of all her neighbours.

Happily, there are signs that to day the various states of Central Europe realise the position, and it is permissible to hope that before the end of the present year many of the vexatious regulations regarding import and export restrictions will have been abolished.

As regards Czecho-Slovakia herself, the next few months will be fraught with difficulties on account of the general trade stagnation. The Government, however, has foreseen the dangers of the crisis, and there is every ground for hoping that that common sense which is a distinguishing feature of the Czech character will tide the country safely over this period of depression.

As to the prospects for British goods in Czecho-Slovakia the report states that under the conditions which prevail at present in Czecho-Slovakia only those firms who take the trouble to send out their own representatives are likely to achieve satisfactory results. For the present it is true the openings for British goods are comparatively few. When trade improves and the control is removed the possibilities for business should be greater. Much will depend however on how far our prices can compete with the local and German competition.

Statistics

In an appendix to the report appear figures of the imports and exports of paper and paper goods for 1920. Total imports were 17,720,300 kilograms, the sources of supply in kilograms being as follows: Austria 8,455,000, Germany 3,909,600, Poland 365,300, Hungary 147,000, U.S.A. 48,800, France 38,500, Switzerland 16,200, Great Britain 6,000, Belgium 4,000, Italy 3,100, Holland 1,400, Jugoslavia 100, Roumania 100, other countries 4,725,200.

Exports of paper and paper goods from Czecho-Slovakia greatly exceeds the imports. The total weight of these goods sent out of the country last year was 76,605,700 kilograms distributed as follows: Austria 26,108,500, Germany 10,837,100, Hungary 9,137,900, France 6,041,900, Italy 4,621,700, Poland 4,068,400, Great Britain 3,191,400, Jugoslavia 3,063,300, Roumania 2,561,100, Switzerland 1,401,800, Holland 555,000, U.S.A. 100,800, Belgium 66,500, other countries 4,820,300.

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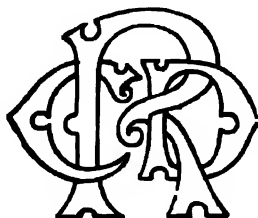
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Coating

Samuel Jones and Co (Devonvale) Ltd Start Production.

The Devonvale Coating Mills at Lillitoultry, Clackmannanshire Scotland commenced operations on September 14th according to plan. It may be remembered that at the end of last year the company of Messrs Samuel Jones (Devonvale) Ltd, was formed for the

purpose of acquiring the mills (which had formerly been used for textile purposes) and developing them as paper coating works. For some time Messrs Samuel Jones and Co have been on the look out for a suitable site and works for this purpose, and eventually their industry was rewarded by the discovery of the Devonvale Mills, which, although built for a different purpose were very suited for the production of coated papers. Indeed, Mr Chas A Hislop managing director had conducted a long search over the length and breadth of the land and his efforts were at last rewarded when he alighted upon the Devonvale Mills.



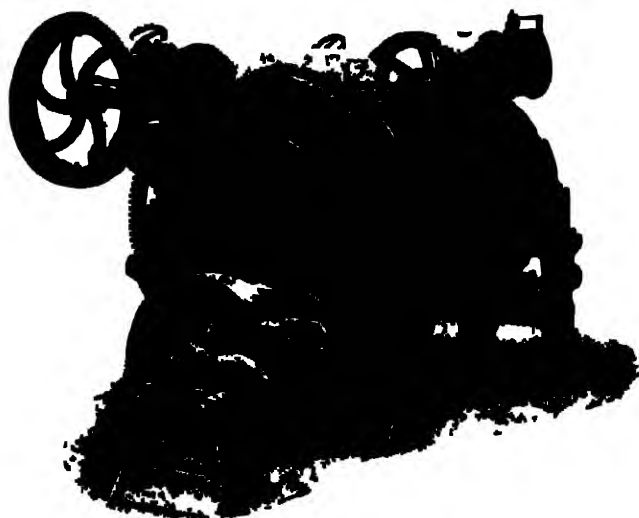
VIEW OF DEVONVALE COATING MILLS

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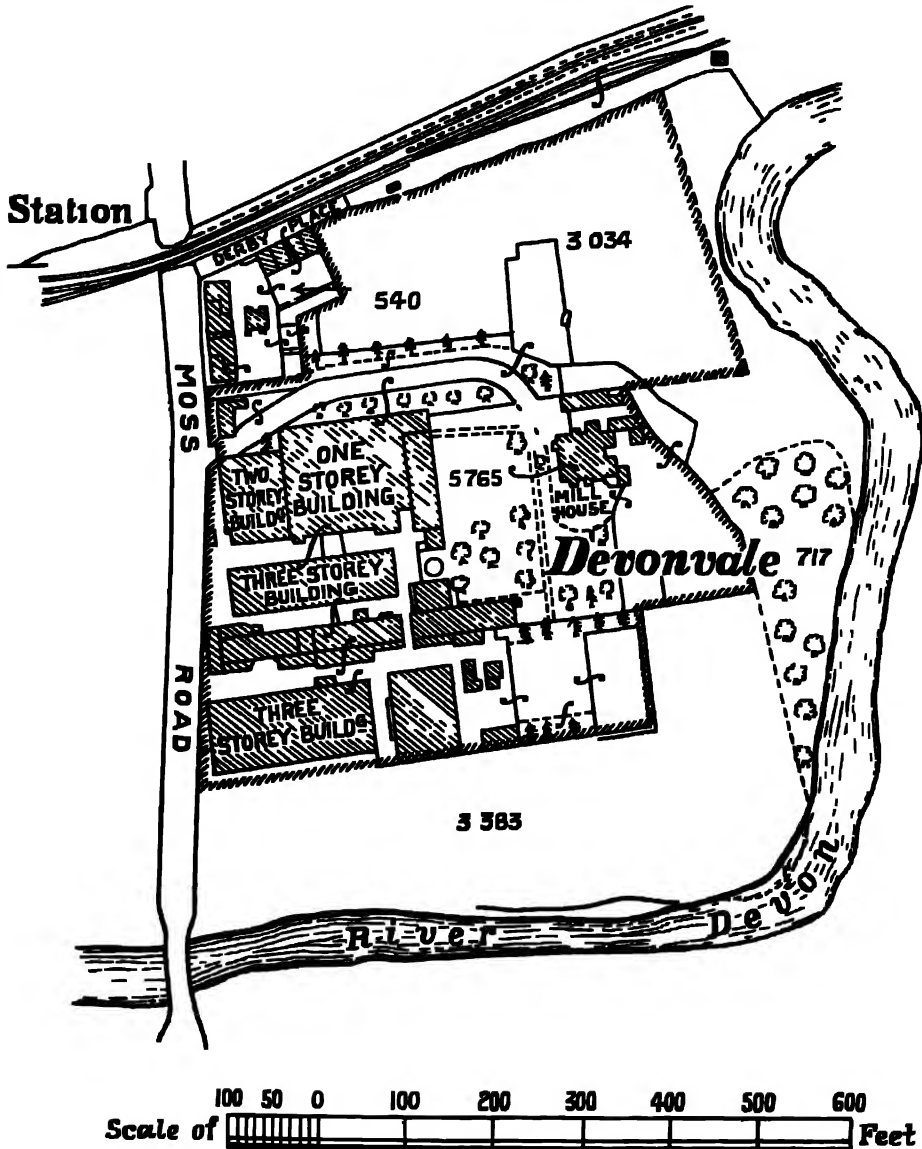
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The buildings already erected were found to be of the right proportions necessary for a coating mill and moreover were solidly built in stone. They were originally erected for purposes of a cloth mill where the manufacture of the famous Devonshire tweeds was carried

adapted for the purpose for which they have been bought, but they are conveniently situated on account alike of their proximity to the railway and to a river of pure water and the presence within a distance of 20 miles of a paper mill very suited to esparto body papers



PLAN OF DEVONVALE MILLS

on by Messrs J and R Archibald Ltd and were bought some years ago by Messrs Betts and Co Ltd, from whom the property was acquired on behalf of Messrs Samuel Jones and Co (Devonvale) Ltd

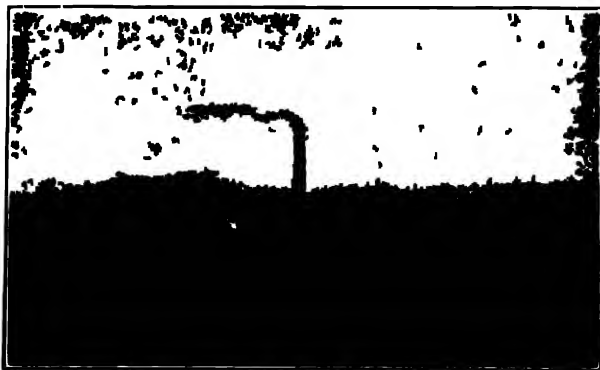
Not only are the mill buildings admirably

which will be so freely used at Devonvale. The river Devon runs along two sides of the property and the railway along a third side. So close to the railway station are the mills that the company can have its own line run right into the works when the necessity arises

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The extent of the ground covered by the Devonvale Mills is just over eight acres, while the buildings of the works cover an area of approximately 9,000 square yards and include two large factories, three storeys and attics and three storeys in height, a two storey block containing office premises and warehouse and a large one storey factory building as well as a number of smaller but fairly extensive one and two storey buildings. In addition there is a large and substantial dwelling house on the east portion of the ground, 15 also 1 lodge and 1 block of stable offices.

Messrs Samuel Jones and Co were not only fortunate in securing works which were admirably suited for their purpose but they acquired them at the singularly low price of £12,000 which carried with it the right to a lease for twenty years from 1916 of adjoining lands extending to fully 12 acres and bordering the river Devon. These adjoining lands were afterwards purchased on behalf of the company from the proprietor at a price of £500. According to the valuation of Messrs Thomas D. Smellie and Fraser surveyors and valuers of Glasgow the bargain was a good one for they estimated in 1920 the value of the land buildings and dwelling house at £2,400 as for a going concern. In valuing the property however, Messrs Smellie and Fraser did not adopt the basis of the existing abnormally high costs since at current prices they stated fully £70,000 would be required to erect new buildings of the same extent.

Equipping the Mills

When the purchase of the Devonvale mills was completed the company set about equipping them with up to date plant and machinery of the latest and most modern type and as already stated, the mills, according to plan, started operation on September 14th last. They are now turning out coated papers in every variety and of the highest quality including art channelled papers, white and coloured and gummed papers for which Messrs Samuel Jones and Co are already noted. The capacity of the plant runs to 3,000 reams (20 in by 30 in) per week. Running day and night under efficient conditions, the directors are fully convinced that they will be able to compete with competitors

from any part of the world, not excepting the expert coaters of Germany and Belgium. If as they fully expect the business in coated papers extends, there is ample accommodation in the existing buildings for the installation of additional plant, and in view of the enterprise shown by the Devonvale Co and their selling agents, Messrs Samuel Jones and Co, Ltd of London there is little doubt that the occasion for expansion will in due course arise.

The directors of the Devonvale concern are all active practical men who have had a life long association with the paper trade and the handling of the particular grades of paper required for the company's business. The chairman is Mr Edward Samuel Jones a gentleman of great business acumen and initiative who is well known as chairman and managing director of Messrs Samuel Jones and Co Ltd. Associated with him on the board are Mr Wm M Wallace managing director of the Carrongrove Paper Co Ltd whose interest in the concern is a valuable asset. Mr A C Jennings who as a director of Messrs Samuel Jones and Co Ltd is recognised as a gentleman of keen insight and energy and Mr C A Hislop the managing director who as already intimated succeeded in introducing the company to the Devonvale mills and who is described as the embodiment of all that concerns paper coating. Mr Hislop managed with great success the nitro glycerine department at Gretna during the war where his abilities as a chemist were in constant requisition.

In addition to the transport facilities already mentioned the proximity of the mills to the Firth of Forth will enable the utmost advantage to be taken of shipping both for export and import and as Messrs Samuel Jones and Co, Ltd are already developing their connections abroad it should be interesting to watch their efforts to meet the competition of foreign coating mills in the markets overseas.

FIRE fires again are raging in many parts of Maine and the situation is considered by Forest Commissioner Dana to be as serious as in June when 300,000 acres were burned over.

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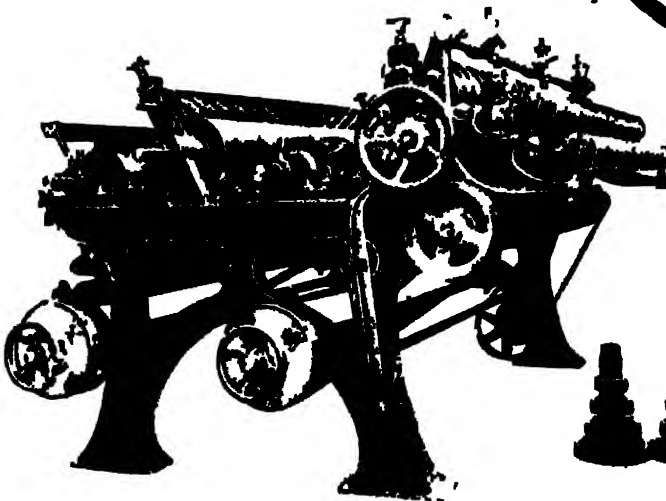
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Trade Notes.

EDITORIAL NOTICE—The Editor will be pleased to receive items of News, Personal and General, Company Reports, or Newspaper Cuttings of interest to the Paper Trade

THE Technical Section of the Papermakers' Association of Great Britain and Ireland has issued a useful Bibliography of Periodical Publications on Papermaking and Allied Subjects during 1920. The brochure is uniform in size and style with the previous publications of the Section and is priced at 5s. It thus provides a convenient index to the current literature of papermaking in all its aspects.

CHIRNSIDE PAPER MILLS—At an adjourned Valuation Appeal Court for the county of Berwick, held in Duns, Mr Doughty, solicitor, appeared in support of an appeal by Young, Trotter and Son, Ltd., paper manufacturers, Chirnside Bridge, for a reduction of the valuation of their premises from £1,933 6s 8d, the figure at which it was fixed last year, to the former valuation of £1,450. After considering the case in private, the chairman said the case had been adjourned with the object of allowing evidence to be led. The company had elected not to do so, and the appeal would be dismissed.

MAGADI SODA CO—Although not able as yet to recommend the payment of any dividend nor even to reduce their working losses which for 1920 amounted to approximately £360,000, yet the directors of the Magadi Soda Co. are confident that an era of great prosperity for their enterprise is well in sight. At the present moment, however, 1,000 tons of the finest soda ash are stated to be produced weekly, and under these circumstances, and considering also the many other troubles which have arisen and have been overcome, considerable justification for optimistic views for the future may be found.

FIRE broke out last week in a large shed filled with esparto grass and wood pulp at Croxley Paper Mills Herts (John Dickinson and Co., Ltd.). The firm's fire brigade turned out with splendid promptitude, and with plenty of water and jets available were able to attack the situation thoroughly. It was not deemed necessary to call in any outside brigades. From 500 to 600 tons of esparto grass and wood pulp were in stock in the isolated structure, and the brigade were working all night in keeping the fire under control and dealing with smouldering portions that broke into flames. The fire, fortunately, did not in any way interfere with the running of the mill and there was no interruption of business.

CHEMICAL MARKET IN SEPTEMBER—Reporting on the chemical trade during the past month, Sir W. Royle and Co. say—During the early part of September trade remained dull, but recently there has been a better tone and an increased business put through. Prices generally are steadier. Some uncertainty has existed and still exists as to

which products are affected by the Safeguarding of Industries Act which came into operation of October 1st, and it remains to be seen what will be the effect of that measure. Alum and sulphate of alumina continue disappointing, and have a tendency to lower prices. Bleaching powder has been in moderate demand, and white caustic soda and ammonia alkali have had an improved inquiry.

THE autumn dinner of the Stationers' Social Society will be held on November 4th in the King's Hall of the Holborn Restaurant, 6 for 6 30.

THE Westminster Gazette is to become a twopenny morning newspaper, the size and appearance to be somewhat like those of *The Times*.

THE United Alkali Co., Ltd., who have chemical works in many parts of the kingdom, have given their employees notice of a 5s weekly reduction in wages beginning on October 13th.

MR A J W GILES formerly with Messrs Charles Briscoe and Co., Ltd., has started on his own account as a paper specialiser and mill agent, his temporary address being 4, Great St Thomas Apostle, London, E C 4.

To do their part to emphasise the truism that lower prices produce greater demand, Messrs James Spicer and Sons, Ltd., offer a selection of "all British made" lines of paper, etc., suitable for the everyday requirements of the printing trade.

PAPER WAREHOUSE FIRE—An outbreak of fire occurred on Monday night at the premises of Messrs J. Frenkell and Co., Ltd., 16, Duferrin street, Bunhill row, E C. The fire, which originated in the basement, affected the paper warehouse. Although only slight damage was done, it is stated that three sets of breathing apparatus were brought into use by the fire brigade in dealing with the fire.

VICKERY'S (1930) LTD. have issued a new transporter catalogue which illustrates the varied uses to which this hand truck can be put. All the latest specifications and details of the transporter are shown. The picture on the cover illustrates the Vickery Transporter in the act of delivering the famous Devonshire House Gateway to the nation. It is, in fact, capable of all manner of work, and is particularly adapted for service to all paper users.

THE Anglo Canadian Wax Paper Co., Ltd., whose offices have hitherto been situated at the works, Cassiobury Mills, Watford, have now taken a lease of the whole of the ground floor of 5, Tudor street, E C 4, which after the 10th of this month, will be their registered address. The volume of business transacted has increased to such an extent during the past two years that it has been necessary to reorganise and consolidate. It was felt that it would make for the greater convenience of friends in the trade to move the offices rather than to extend the present premises at Watford.

The Safeguarding Act.

Obstacles to Obtaining Consideration Under Part 2

Manufacturers who are desirous of obtaining a status under Part 2 of the Safeguarding of Industries Act are apparently faced with considerable obstacles owing to the requirements which are put forward by the Board of Trade. In order to clear the air if possible a meeting of the Federation of British Industries was held on Tuesday and attended by representatives from principal industries including papermaking. At the gathering considerable criticism was voiced against the Board of Trade on account of the elaborate statistics, data and information asked for from British industries which are affected by foreign competition. The chief objection seems to be that the Board of Trade are asking manufacturers to ascertain and prove the cost of manufacture in foreign countries. Manufacturers on this side maintain that it is next to impossible to get reliable information of this kind. The view is held that the fact that the foreigner is able to sell at certain figures in the United Kingdom is *prima facie* evidence that he can produce for that figure or less.

It is planned to have a further meeting under the auspices of the I.B.I. when a deputation will be arranged to wait upon the Board of Trade with a view to inducing them to modify their request for information as to costs in foreign countries.

In the meantime, for the guidance of those who are anxious to obtain relief under the

Act, we may indicate the information which the Board of Trade will require in order to enable them to determine whether a *prima facie* case is made out for reference to a committee. It is desirable that representations made to the Board should be made through an association, or other organisation where such exists, of the trade or industry affected. This preliminary information should include —

- (1) Description of article and full particulars of sale
- (2) Country or countries of manufacture
- (3) Evidence as to price at which sold or offered for sale in the United Kingdom
- (4) Evidence as to price at which similar goods can be profitably manufactured in the United Kingdom
- (5) Evidence to show that the depreciation in relation to sterling of the currency of the country of manufacture is responsible for the fact that the prices at which goods are sold or offered for sale in the United Kingdom are below the prices at which similar goods can be profitably manufactured in the United Kingdom
- (6) Evidence as to the extent to which by reason of the sale or offer for sale employment in any industry in the United Kingdom is being or is likely to be seriously affected

It will be after the consideration of this evidence and the determination that a *prima facie* case has been made out for reference to a committee that the Board of Trade will give public notice of the appointment of the committee and so on and this committee will act under the procedure indicated in our last issue.

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the current issue

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Britain and Colonies, an active well introduced
AGENT, solicitations to publisher's office able to
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Managers, etc

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J B Thornton,
General Manager, "Yorkshire Post,"
LEEDS 18372

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Apply, The St Neots Paper Mill Co., Ltd (Mill No 24), St Neots, Hunts 18224

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FRIDAY OCTOBER 7 1921

Depression Passing Away

It has been a long and anxious time waiting for the turn of the tide in business. While those engaged in the paper trade are by no means clear of the difficulties which the long period of depression has created, there is evidence now that a change for the better is taking place. True, the improvement is not phenomenal, but the fact that it is there even in a small degree is encouraging. There is all round a better tone. In Lancashire, for instance where everything revolves round the cotton industry, there are signs of movement, if not of activity and one firm has been obliged to go on to overtime in order to deal with a rush of orders. The effect of this has been felt in the paper mills, especially those

which supply the cotton factories with a certain part of their equipment. This is regarded in the North as some evidence of trade revival, which, it is much to be hoped, will be permanent and widespread. The obstacles, however, are many and great, and Mr. W. L. Hichens, the chairman of Cammel, Laird and Co., indicates some of them. He maintains that there can be no real and permanent improvement in our trade until the political conditions of Europe are more stable than they are to day. Europe was our best customer before the war, and until we can resume trade relations we cannot get back to normality. The thing that matters it seems to me as a business man,' he says, 'is stability. I don't care how many marks go to £ as long as the matter is definite and you know where you are but when the exchange pops about from day to day you feel that money is no longer the medium of exchange at all, and that it has lost its real function in the world. Inflation is the root cause of this instability. It is a monster created for a certain purpose, and it has proved too powerful for those who called it into existence, and in the end is going to prove their destruction.'

Prices

PRICES are generally regarded as the principal factor in trade revival. Whether they are entirely so may be doubted. British papermakers have made great efforts to encourage trade by lowering their prices and these advances can scarcely be said yet to have succeeded. Quotations have been cut out of all proportion to costs and still orders are slow to come forward. There is a limit to this procedure, of course, and that limit has been reached and passed. Whether the concessions made by the manufacturers and the wholesale traders have been conveyed to consumers by retailers is another point about which there are doubts, and until confidence is inspired by these concessions reaching the consumers there can be little prospect of trade activity at home. This drag upon the wheel is bound to be lifted or forced away in time, and the sooner the better.

A Trade Barometer

THERE is a psychology of paper as well as of human nature. It is curious just now to note how universal are the symptoms governing the trade. Kraft pulp and paper is a case in point. Business in these materials has developed alike in Europe and in America. The moral to be drawn, perhaps, is that the

movement in kraft presages a renewal of activity in the paper business. It is assumed that the demand for kraft paper is based on the improvement in business all round, together with the fact that the large stocks which were held when the slump came have now been exhausted. Wrappings are usually regarded as a good trade barometer, and as kraft paper is used so largely in connection with other branches of commerce, the activity which is beginning to show itself may be taken as another indication that business is really on the move.

British Goods Desired

JUDGING by reports coming from various parts of the world, there is a general desire to secure British goods, business in which was interrupted by the war. Every traveller returning to this country brings the same tale. But while there is the desire to purchase British goods, the complaint is general that our prices are too high, and much above those of our competitors. Although these specific objections have been raised in regard to other manufactures than paper, there is little doubt that paper quotations from this country are also on the wrong side compared with those of some continental producers. It is time, therefore, to pay very special attention to the question of costs and see if prices cannot be lowered. One of the great hindrances to foreign trade at the moment is the question of the exchanges and their uncertain fluctuations. Against these there seems to be no remedy. Yet until prices are adjusted, it seems impossible to expect any recovery in export. Perhaps the Government, in attempting to deal with the problem of unemployment, may be able to evolve a credits scheme which will set things on the move again.

An Awakening World

IT is not alone those who handle paper who are affected by high costs of goods. The engineers who supply papermaking and other machinery abroad are also concerned. China presents a case in point, for here, owing to higher prices, British firms have been passed over for American and Japanese concerns whose quotations are considerably lower. This is an unfortunate state of things and remedy is difficult to apply. But we are all anxious that British engineers should be able to stand a chance of such contracts that may be going. In the case of the pulp and paper industry, there is a great world awakening, and our manufacturers who can produce the

goods should not be ruled out by reason of price. The regulation of this matter is not one in which the Government can assist. It is a matter for internal organisation. Unfortunately the first item that comes up for consideration is that of wages. Representing as they do so large a proportion of the ultimate cost it is inevitable that they should be watched closely. There are other directions also where cost can be lowered and for the sake of the industrial future of this country it is essential that they should be carefully and speedily investigated.

SIR I VANSITTART BOWATER is an active member of the Motherland Lodge of Free masons, which was formed during the war as a Masonic home in London where brethren from overseas could meet those of the Motherland. At the annual meeting of the lodge Sir Thomas proposed the health of the Master (Mr Richard Gill, P G D England).

CAPT W L NUTTALL has presented to the Papermakers' Association an excellent portrait of his father the late Mr I Y Nuttall, and this has been given an appropriate place on the walls of the board room.

CONGRATULATIONS to Mr and Mrs Henry Featherstone who on Wednesday celebrated their silver wedding.

MR FEATHERSTONE has for long been identified with the paper trade and some of his old friends joined him at his Hove residence to commemorate 25 years of domestic happiness.

MR CHARLES HILL'S counting house manager to Messrs Grosvenor, Chater and Co Ltd is a very keen bowler, and this season has won both the Championship and Handicap Competitions of the Penge Bowles Club on the Crystal Palace Greens, which, by the way were laid down under the direction of the late Dr W G Grace.

AMONG the speakers for the winter session of the Industrial League and Council, which was inaugurated on Wednesday, will be Mr F C de Segundo AMIC, who on November and, will address the members at Caxton Hall on 'Ability as a Factor in the Production of Wealth'.

MR O C WULFSBERG (Messrs Wulfsberg and Co, timber, paper and chartering agents), has become a permanent member of the Norwegian Chamber of Commerce, London.

Encouraging Increase in Exports.

A report of the Finnish Central Chamber of Commerce states that the paper industry shows an encouraging increase in the amount of exports although a number of the machines are still idle. Mechanical pulp and cardboards are weakest, but sales have now taken an upward trend. The amount of cellulose exported shows a satisfying increase. Most of the cellulose exported finds its way to the U.S.A. but Japan, France and Belgium have increased their demands for same and even far off Mexico has appeared as a purchaser. Prices are, however not all that could be desired.

The exports of paper which are the most important in this branch of the woodworking industries, have not increased in the same degree, and consists principally of news print paper and grease proof paper whilst the sales of ordinary wrapping paper are sluggish. Purchasers still seem to be reserved in their buying.

At the second Finnish Industrial Fair there were 20 exhibitors in the paper and printing section and sales represented a value of 3,070,000 marks.

Net profit of British Glues and Chemicals for period from January 10th, 1920 to May 31st, 1921, including interest on investments and loans, after due allowance has been made for bad and doubtful debts, depreciation and directors remuneration, and after making provision for reduction of stocks to market values, was £241,722 less whole of preliminary expenses and expenses incurred in connection with acquiring new businesses written off £57,679 and preference dividends paid £33,969, leaving £149,872, subject to taxation and subject to capitalisation of profits earned prior to incorporation net amount of which can not be ascertained until company's liability for taxation is agreed.

Amalgamation of eight separate companies has raised a number of complex questions in connection with excess profits duty, corporation tax and income tax, and consequently it has not been found possible up to the present to form any reliable estimate of liability in respect of these taxes. A dividend at rate of 8 per cent per annum on preference shares is being paid for half year ended September 30th, 1921, but directors regret that, in view of present condition of trade and consequent necessity of conserving resources, they are unable to recommend dividend on ordinary shares. Directors have purchased business of Lomas Gelatine Works, of Plymouth.

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CITY 72 (Works)

Agent for Scotland:

Mr. R. M. NORMAN,
75, Armdale Street, GLASGOW

Canadian News-Print.

New Prices and Future Prospects

It is understood in Montreal that the Canadian Export Paper Company, Limited, has adopted the price of four cents per pound, fob mill for news print for the quarter beginning October 1st, which is the same price fixed upon by the International Paper Company. It is generally felt in quarters close to the news print situation that the new price will prove satisfactory. This is expected to pave the way to an increased volume of business, besides allowing the companies a fair profit on their present cost of production.

Canada exported 58,182 tons of news print paper to the United States in July an increase of 11,962 tons over the month of June preceding, according to a statement just issued from Washington. American imports of news print from Europe during the month totaled 7,882 tons, Germany sending 4,535 tons, Sweden 2,344, and Belgium, Denmark, Finland and the Netherlands making up the remainder.

In June the European imports amounted to 4,558 tons. Taking the July imports from Europe as a monthly average for the year it would mean that the United States imports of news print from other countries than Canada this year, in spite of all that has been said about them, will fall below 100,000 tons or less than 5 percent of the normal American consumption of news print.

Meanwhile United States exports of news print, normally over 5,000 tons a month have fallen to almost 500 tons. In normal times American news print exports would just about offset their present rate of European imports, leaving the domestic requirements to be filled by Canadian and American mills.

Canadian news print authorities deduct from this statement that the situation as to their American market is still very favourable and likely to improve from now on. There are indications, such as a resumption of advertising to move fall goods, an increase in newspaper circulation due to a reduction in the selling price (many American newspapers

have recently come down from three to two cents per copy), and the starting up of new newspapers, which, they say, encourages the belief that from now on the demand for news-print will gradually increase. Recent reductions in the contract price for paper will also contribute to this end. In Canada the federal election campaign is also expected to have a stimulating effect upon the news print market.

U S A. News-print Cut

The Minnesota and Ontario Paper Company announce a price of \$88 per ton for news print paper for the month of October, November and December. This is a further voluntary reduction of \$10 per ton from the contract price, and is in addition to a reduction already given of \$5 making a total reduction of \$15 per ton from the price previously fixed by contract for the last quarter of 1921.

Vellum Paper.

A very simple and inexpensive device, employed in an important French works with good results is described as follows in *La Papeterie* -

A bristly brush 10 centimetres (3 94 in) wide is placed inside the wire, between the first and second suction boxes starting from the head roll and just under the vellum or laid paper drip roll.

The extremities of this brush are held by two sliding supports with an adjusting screw, so that it can be moved near to or away from the wire. The bristles of this brush should be eight centimetres long. For good work it is well to have at least three suction boxes.

The first box must be well regulated so that the proper quantity of water will reach the drip roll. Care must also be taken to regulate vibration so that the fibres will cross over each other uniformly, an essential point. The brush extracts the water retained by the drip roll and drives it through the meshes of the wire, thus preventing crushing in the wet press.

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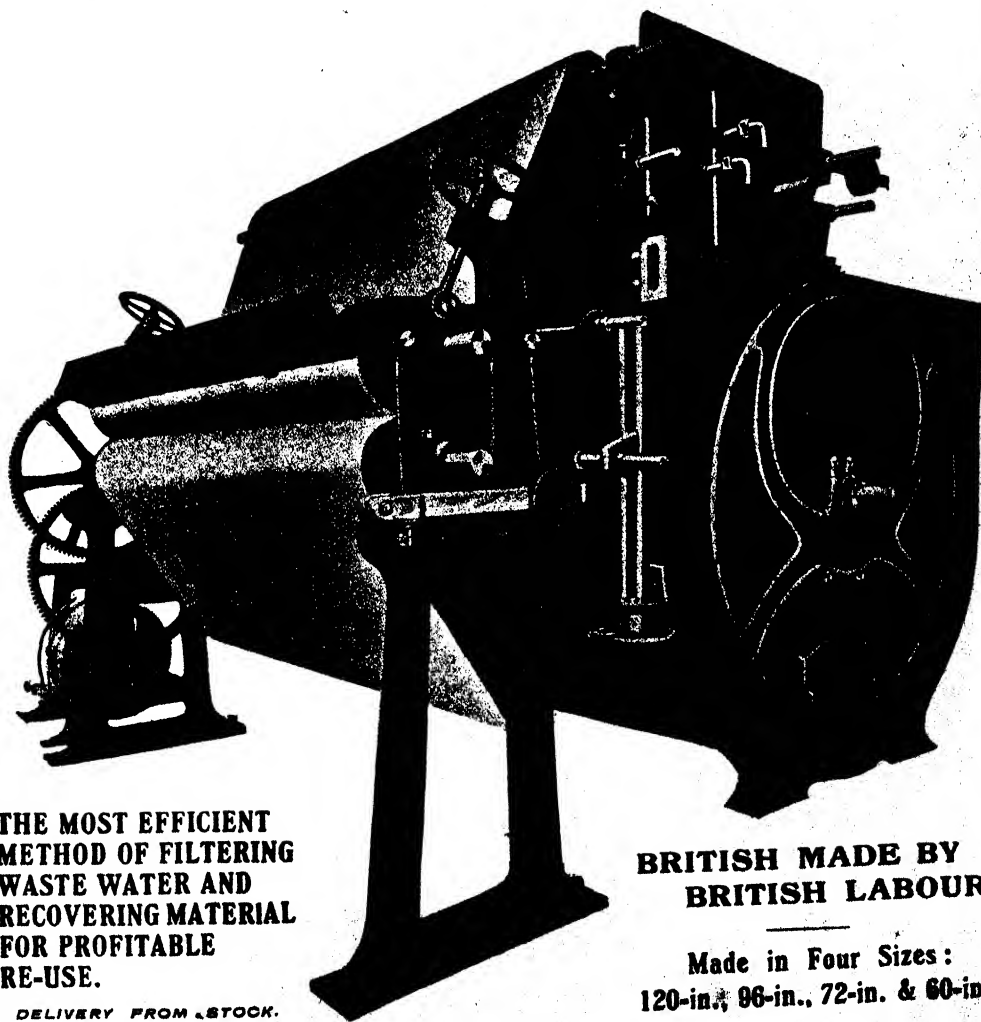
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Sizing Difficulties.

Experiences with German and Foreign Pine Resin.

In a lecture before the Executive Committee of the German Pulp and Paper Chemists and Engineers Society at Wurzburg Dr Pelzer said that with all kinds of pine resin, difficulties arose occasionally in the boiling of size. The trouble is indicated by the contents of the boiler appearing to be filled with a granular mass on cooling, or they may even become entirely solid and hard. Close investigation has shown that the cause of this is the formation of a peculiar super acid salt or an abietic acid of the composition $C_{19}H_{11}O_3$, $Na + 3C_{19}H_{11}O_3$ and whose melting point is about 200 degs C. He used the name abietic acid on account of conciseness, although it forms only about 90 per cent of the pine colophony and without taking up any definite point that probably we are dealing with a mixture of isomers which perhaps change easily one into the other. That abietic acid was capable of forming acid salts had already been noticed. In the *Monatsh. Chem.* of about 30 years ago E. Mach announced the formation of acid calcium salts in alcoholic solutions. The author has more thoroughly studied such salts both in alcoholic and in watery solution and the results will be published.

The reactions in the watery solution are of special interest to the paper industry on account of the sizing process. The belief that abietic acids are precipitated from watery solution by other acids is only right when taken with a grain of salt. When the conditions are suitably prepared mineral and organic acids cause the formation of the above named salt, so also does the miscarried boiling of size. It is specially interesting to note the easy formation of the acid salts under the influence of nitrous acid, carbonic acid and weak organic salts.

When such acids appear in the manufacturing water supply one can understand the formation of the acid, insoluble salt of high

melting point. No doubt this explains many of the sizing difficulties. The conditions are naturally more complicated when using colophony instead of the pure acid. It contains substances which prevent crystallisation, but the formation of the acid salts from resin solutions under certain circumstances is undoubted.

Dr Klemm reported several cases which had come under his notice and which might be due to the same cause and Dr Willi Schacht acknowledged the importance of the contribution as affording a solution of difficulties which have hitherto baffled the paper maker and he expresses a hope that further work along the same lines will result in the establishment of proper working conditions.

Zellstoff und Papier

News-Print Projects.

A very carefully considered news print mill designed to be classed among the big ones, located in the north west of the United States ready for financing when the war broke out and since that time held in abeyance, is expected to begin construction in the relatively near future, as it is understood that its financing has recently been completed.

The great Pacific shipping magnate, Mr Robert Dollar, has, it is stated, perfected his plans to build a news print mill in Philadelphia which will be served with ground wood and sulphite from Pacific coast mills, these supplies being handled by the Dollar freight ships through the Panama Canal, all of which means that there is added news print tonnage in sight from mills operating in the United States.

There is also reason to believe that the project considered by Mr Jeffries of the Birmingham *Herald* to manufacture news print from Alabama spruce pine, which is said to be available in the northern part of Alabama will soon be under way.

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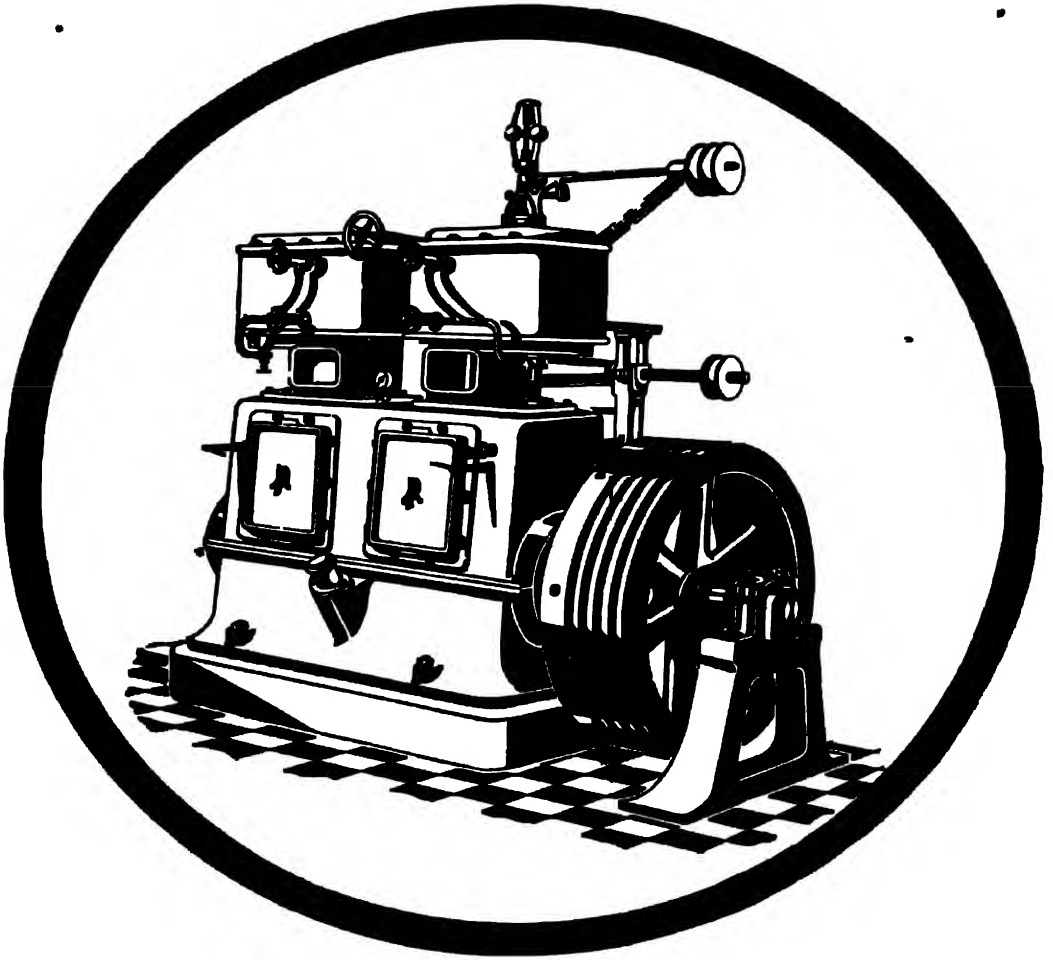
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Cardboard Box Manufacturer, 1, Reeves-place, Hoxton

This debtor attended before Mr Registrar Stiebel on October 4th at the London Bankruptcy Court for public examination upon accounts showing total liabilities £2,792 (unsecured £2,407) and assets valued at £1,072. Replying to the Official Receiver, debtor stated that for about 16 years prior to the end of 1919 he was in the employment of his grandmother who was carrying on the above business under the style of 'S Fordham'. At the latter date his grandmother assigned the business to him, a condition of the assignment being that she should receive from the business £100 payable by instalments and £3 a week for life. Witness had no cash capital, but took over stock, machinery and trade fixtures worth about £150 and the outstanding liabilities amounting roughly to £600 which he subsequently paid off. Up to the beginning of this year the business just about paid its way but subsequently, owing to a fall in prices and the general depression there had been a loss on the trading. Witness attributed his insolvency to interest on borrowed money, to the fall in prices which compelled him to sell goods under cost to depreciation in value of his stock on hand, and to the general depression in trade. The examination was concluded.

Silver Wedding Presentations.

In celebration of the silver weddings of Mr J Clifton Town and Mr J Ernest Town directors of Joseph Town and Sons Ltd wholesale stationers, Leeds, the members of the staff were entertained at a whist drive and dance at Collinson's Cafe. A large company was present, and occasion was taken during the proceedings to present each of these directors with a handsome silver centre piece as a token of the sincere esteem in which both of them are held.

The presentations were made by Mr John Harper, the oldest member of the staff who referred to the cordial relationship which has existed for so many years between masters and employees. The recipients of the gifts suitably responded.

Norwegian Paper " "

The Commission appointed in Norway by Royal Resolution in 1916 to deal with the question of combating trusts and other combines which aim at the stoppage of free competition, artificial increase in prices, etc., has recently handed in its recommendations. Among the branches of Norwegian industry where cartels have occurred and do occur are mentioned paper and cardboard and cellulose.

The Commission has not considered itself able to recommend the introduction of a total prohibition against trusts and cartels. It takes a doubtful view as to the effectiveness of an absolute prohibition and is also unable to believe that such a prohibition would serve its purpose in all cases. The Commission has, therefore, come to the conclusion that trusts and cartels should be allowed to exist where they are not of an openly malignant nature and that the policy of the authorities should be to prevent abuse and inconvenience as much as possible.

U.S. Tariff Bill Postponed.

Following the deputation representing the Sheffield steel, cutlery and tool trade which visited the United States in reference to the adverse effect which the Fordney Tariff Bill would have it is now stated that the position of the tariff is, that it is held up for revision, and will not come up again until January or February 1922, and then, if at all, in a very modified form.

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Mr John Jardine

The paper trade of this country is the poorer by the death last week of Mr. John Jardine, chairman and managing director of Messrs James Brown and Co., Ltd., paper manufacturers, Esk Mills, Penicuik, Midlothian. The deceased gentleman, who had reached the age of 80 years, was not only a very expert papermaker but he possessed exceptional personal qualities. A man of strong, upright character, he carved out his career for himself, for he began life with no material advantages. Gifted with a retentive memory, dogged perseverance and strict integrity, he carried himself from the most humble to a high position in industry. By his own individual efforts, he achieved two distinct successes in life—first as a marine engineer and later on as a papermaker.

Losing his father when he was only six years of age, John Jardine began work six years later as an office boy in the calico print works of his native town of Dunipace, near Denny, Stirlingshire. A further six years passed and at the age of 19 young Jardine adopted the career of an engineer, apprenticing himself to the Carron Iron Co. at Carron. Completing his indentures he spent a few years with a firm of shipbuilders at Glasgow, where he attended the evening classes at the Technical College and University, thus laying the foundation of that knowledge which he was so keen to imbibe and so ready to assimilate and impart.

Removing next to Liverpool he joined the Cunard Company and was in their service in the Mediterranean and Atlantic. While with this company he secured the Board of Trade certificate as chief engineer, and just before leaving them he was appointed in this capacity to one of their steamers. His first voyage to New York was the last trip made by the paddle steamer *Persia* and in those days the voyage occupied three weeks and the highest steam pressure was 5 lbs per square inch.

Forty-nine years ago John Jardine abandoned marine engineering for papermaking and when Mr. Edward M. Dougal and Mr. Thomas M. Dougal became actively associated with the papermaking industry carried on at Esk Mills, Mr. Jardine removed to Penicuik to take up responsible duties there.

Mr. Jardine's engineering experience was invaluable at this period and with close study of the technical side of the business he was soon promoted manager and at his death he was chairman and managing director.

During his long association with Esk Mills, Mr. Jardine not only directed the concern on sound business principles but he developed and improved the undertaking. The earliest task he carried through a short time after he

came to Penicuik, was the laying out of an extensive system of precipitation ponds, drains etc. for effluent purification, to meet an interdict by the Law Courts. In 1884 he installed a Pollit and Wiggill engine with high piston velocity this being the first of its kind used in a paper mill and it superseded a water wheel and beam engine. In 1888 he introduced a Laryan multiple effect evaporator, the first, or one of the first, to be installed in this country, and in the same year he worked out and patented a duplex reversible incinerator; the combined action of these two effecting a very considerable reduction in the consumption of coal for soda recovery.

Immediately after this he devised a system of esparto washing and bathing, with great economy in water, and installed a new caustic



Photo Mount Edinburgh

THE LATE MR JOHN JARDINE

using plant with waste lime recovery. In 1895 the earliest type of McPhail superheater was adopted and a few years after an induced and forced draught system was installed at the steam boilers enabling a low grade fuel to be used. In 1896 paper coating plant was installed and a start made on a fully extensive scale with electric driving in respect of which Mr. Jardine proved himself a pioneer.

In 1900 experiments were conducted for Mr. Masson (of Masson, Scott and Co.) with bleaching towers, and they were thereafter adopted. In 1907 the first inward flow revolving strainer of the Banning and Seitz type was installed.

Throughout his tenure of office at Esk Mills

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ROSIN SIZE.

four new papermaking machines have been installed and three have been reconstructed and recently, owing to fires the beating and bleaching houses have been very largely rebuilt, in fact, in his time the whole mill has been rebuilt, and some parts of it more than once, while productive capacity has been increased fourfold.

The undertaking at Lisk Mills was converted into a private company in 1890, and eight years later into a public company.

Mr John Jardine's considerate nature for his workpeople was a strong trait in his character and the relations between employers and employed at Lisk Mills were always excellent.

Mr Jardine is survived by a family of five sons and two daughters. Mrs Jardine's death occurred fifteen months ago. It may be mentioned, three sons were associated in the business with their father, the other two entering the medical profession. Dr John Jardine is medical inspector of schools in Midlothian and Peebles counties, and Dr Frank Jardine is an assistant surgeon in Edinburgh Infirmary.

The funeral at Penicuik was largely attended. The pall bearers were Major Wm Jardine, Mr Jas L Jardine, Dr John Jardine, MD, Mr L MD Jardine, Mr Frank L Jardine, FRSE (sons), Mr J G Cowan (nephew), Mr Jas L Cowan (grandson), Mr Stephen Jardine (nephew), Mr A Irew and Mr D Gillespie. A large number of wreaths were placed on the grave.

The general company included: Mr A Burn Murdoch, WS, representing Mr J W H M Douglas of Raeshaw (director), Mr C H Armstrong WS (director), Mr Ian I Nelson (director), Professor Gemmel Edinburgh, Mr A Paton (Bertrams Limited, Edinburgh), Mr P B Menzies (West Lnd Engine Works), Mr Alex Cowan (Alexander Cowan and Sons Ltd), Mr C G Wallace (Wm Sommerville and Son Ltd), Mr John Annot (Manchester), Mr Gray and Mr James White (James Bertiam and Son), Mr Robert Allan (W G Taylor and Co), Mr I I McCrow, Mr Wm Braid (Berner and Neilsen), Mr H Andrews (Henderson Craig and Co), Mr H England (English China Clays Co), Mr R G Claster (London), Mr John Craster and Mr R H Clapperton.

Mr William Bradley

We regret to record the death, at the age of 69 years of Mr William Bradley who for so many years represented Messrs Lepard and Smiths Ltd, the well known paper merchants of Great Earl street and Upper Thames street.

Mr Bradley, who enjoyed unbroken health for fully 60 years, was suddenly seized with illness a few weeks ago, and although an operation was successfully performed he gradually sank, and finally passed away peacefully in his sleep on Friday the 9th inst. A memorial service, conducted by the Rev G Oswald Bainton, A I S (Streatham Hill Congregational Church), was held at the private residence at Streatham Hill on the 13th prior to the interment at Norwood Cemetery. Messrs Lepard and Smiths Ltd, were represented by Mr J H Gurney Smith (director), Mr I Harris Christian (secretary) and Mr H H Mellon (manager). Mr Frank Briant MP for Lambeth (North Division) with whom Mr Bradley had been associated for 34 years in connection with Alford House, Mr Briant's club in Lambeth walk for working men and boys, was also present. By a strange coincidence the grave in which Mr Bradley was interred was next to the family vault of the Gurney Smith family, located at a school in the neighbourhood of Oxford. Mr Bradley left there to enter the firm of Messrs Lepard and Smiths with whom he remained to the day of his death—a period of over 54 years. In the early days of his career he was obliged to walk four miles each morning to his work, there being no other mode of transport available. Perhaps to this cause may be traced his fondness for walking which in later years became his chief form of recreation. A keen lover of nature, he was often to be found walking or cycling during the week ends in most unlikely byways enjoying to the full the delights of the countryside and this continued right up to the time of his illness. Another characteristic emphasised by Mr Frank Briant, MP, was his unflinching performance of any duty undertaken. His invariable good temper and straightforward character kindly disposition, and the genuine pleasure evinced in the success of others, gained for him during his 54 years of business experience the respect and esteem of many who will miss an old friend. In a world of unrest he was able to

'Lay aside life harming heaviness'

And entertain a cheerful disposition
and his passing leaves us the poorer

THE revised list of duties leviable on goods exported from Bulgaria include 10 leva on porcelain clay (kaolin) per metric ton gross, 9.80 leva on waste paper per 100 kilograms gross and 1 leva on textile waste per 100 kilograms gross.

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THE WORLD'S Wood Pulp Industry

Scandinavian Rates of Exchange

THE following rates were current on the dates mentioned (par of exchange to £1 -
Christiania Kr 15 159 Stockholm Kr 15 159,
Helsingfors M 25 22½)

	CHRISTIANIA Kronor	STOCKHOLM Kronor	HELSINGFORS Mark
Sept 29	29 75 30 25	16 65 16 80	255 265
30	30 20 30 45	16 70 16 80	255 265
Oct 1	30 30 30 50	16 70 16 75	255 265
3	30 10 30 70	16 68 16 75	245 260
4	30 72 31 40	16 70 16 75	245 254
5	31 10 31 75	16 65 16 75	250 256

British Imports Sources of Supply.

THE arrivals of wood pulp at British ports from various countries during the week ended September 24th 1921 were as under

BLEACHED CHEMICAL DRY

Sweden	250 tons	1 10 750
Finland	100 ,	2 000
Norway	70 ,	1 747

UNBLEACHED CHEMICAL—DRY

Sweden	1 955 tons	£77 295
Canada	1 000 ,	25 000
Norway	610 ,	21 4 0
Finland	387 ,	6 60
Germany	213 ,	2 6'0
Holland	45 ,	902

MECHANICAL WET

Canada	6 969 tons	£104,574
Norway	5 604 ,	31 561

MECHANICAL—DRY

Finland	864 tons	£7 020
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United Kingdom

THE improved tone which has been creeping into the pulp market of late has been well maintained

MORE inquiries are forthcoming, and a certain amount of business has resulted

It is fully expected that steady business will develop from now onwards in view of the diminishing stocks in the United Kingdom and the low production in Scandinavia

MECHANICAL pulp is the stronger feature, and papermakers appear to be concerned with the question of autumn delivery while they are also on the look out for supplies over next year

PRICES of course enter into the matter very insistently

QUOTATIONS for chemical pulps are a little uncertain while those for mechanical are firm

Norway

CONDITIONS in the pulp market are unchanged being influenced by the strike but inquiries are forthcoming for mechanical

Sweden

PULP business is of a restricted order especially in the case of cellulose, in which commodity there is keen competition from Finland and Germany

THE effects of this competition are particularly felt on the European markets, since the prices quoted by Finnish and German pulp makers are so low on account of the exchange rates that Swedish manufacturers are in many instances unable to compete

DEMAND is still good from the United States, especially for kraft pulp and *lufatsvariden* reports that during the last weeks some 15,000 tons of kraft pulp and 12,000 tons of sulphite have been sold to American mills, largely from consignments on the other side

THE undertone of the mechanical pulp market is described as optimistic Demand, however is chiefly from home mills for moist pulp

QUOTATIONS are firm at kr 57-65 per ton f o b West Coast, and kr 50-58 Baltic ports

DRY pulp is quoted kr 125-135 per ton West Coast, and kr 115-125 Baltic ports

United States

FIRMER prices all round give an indication of the better tone in the pulp market

ALL grades of chemical show a tendency toward greater strength, and a steady and gradually increasing demand is experienced for all varieties, both domestic and foreign

MECHANICAL pulp is slightly higher in price

THE shortage of this grade of pulp is being overcome now that mills are again running full time

SO FIRM are prices it is stated, that in frequent instances stored ground wood is fetching the same prices as freshly ground wood

OFFICIAL statistics covering the production of pulp in July reveal figures which are only about half those of the corresponding month of last year

THE total of all grades produced in July amounted to 178 173 tons comparing with 312,334 tons a year before

OUTPUT of mechanical pulp fell from 123 330 tons in July 1920 to 75,405 tons in July this year and news sulphite from 70 563 tons to 42,572 tons. The drop in bleached sulphite is from 49 637 tons to 21,919 tons, sulphate from 18,514 tons to 11 835 tons and soda pulp from 36 005 tons to 16 339 tons

OTHER grades have fallen off in the same proportion, while stocks on hand at the end of the month show proportionate increases, with one slight exception

THE plant of the Alaska Pulp and Paper Co. at Speel River, the only plant of its kind in Alaska at present, is closed. The management has stated that it will not be re-opened until there is an improvement in market conditions as they cannot operate at a profit with pulp around \$35 a ton, coupled with freight rates of \$12 40 a ton to Seattle

Canada

DEMAND for pulp has somewhat improved and there is considerably more material moving

GROUND WOOD pulp is selling at from \$20 to \$25 a ton

AS FOR sulphite pulp prices vary considerably. A fair average suggested by the *Pulp and Paper Magazine* is \$60 for strong unbleached and \$80 for bleached. Buyers, however, are not easily tempted to buy, unless they can get the pulp at an attractive price

TISK improvement in the demand for pulp is nearly all for unbleached

THE Manitoba Government has been successful in having freight rates on pulp wood lowered. The new rate would be the same as that on cordwood, the extra charge on pulp wood of 2 cents per hundredweight having been removed

China Clay Industry.

Pilgrimage of the Miners

A correspondent of *The Times* has been visiting St Austell, and reports thousands of men out of employment, and says the county is shaken from one end to the other by the fear of what is expected to happen in the next few months

St Austell, he points out, is the centre of the china clay industry. In normal times 5,000 to 6,000 men are employed. Most of them, such as the sandmen, loaders, washers and dryers, employed on piece work, make about 15 8d per hour other grades 5d less. The industry, however, is now in such a state of stagnation that it has been found necessary to divide the number of working days, so that the married man may get a slightly better remuneration than the single ones. The married under this arrangement work four days a fortnight and the single three. The prospect is for the period to be reduced

The latest available figures aptly reflect the depression in the china clay trade. For the eight months ended August 31st shipments of china clay were—in 1913, 461,975 tons, in 1920, 318,738, and this year, 105,248. Last year the workers did well and vast stocks of clay were got. So large are they, in fact, that, with orders such as were received last year being got now there would still be sufficient clay already mined to meet all demands for six months without another ton being produced. There has been a long period of short work in the paper trade particularly in the United States, whither much of this local clay is sent. The Continental market has suffered severely through difficulties arising out of the rates of exchange. The clay products of Bohemia and Germany, which before the war did not actively compete against Cornish and Devon clay, have secured now many old British markets abroad.

Mr Stocker, of English China Clays, Ltd., informed *The Times* correspondent, that assisted export has no effect on the industry. It is not, he said, a question of loaning money, but of the cost price of the article under existing exchange rates. Capital in the industry at the present time is very fully absorbed in stocks so that money is not available for either development schemes or for new work. Meanwhile the clay workers, perhaps the thriftiest community in the country, are near the end of their savings and their earnings grow less. They have half a crown a day organised relief money but that will not last through the winter.



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WITH THE BRITISH WOOD PULP ASSOCIATION

An Official Account of the Registered Quantities and Values of Chemical and Mechanical
Wood Pulp Imported at the various Ports of the United Kingdom.

BLEACHED CHEMICAL - DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Sept 21	Hull	Calypso	Christiania	210	4	473
" 26	"	Newton	Skoghall	234	30	2,730
" 24	"	Calypso	Christiania	180	30	1,132
" 3				10	1	140
" 20	Grangemouth	Solfid	Kotka	603	100	2,000
" 22	"	Vina	Kallio	1,016	200	5,000

UNBLEACHED CHEMICAL DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Sept 19	London	Kari	Christiania	3,280	410	13,760
" 20	"	Binnu	Dimmen	500	110	1,923
" 20	"	"	Christiania	600	100	1,421
" 20	"	Gustafsberg	Sundsvall	7,600	1,720	43,701
" 8	Grimsby	Moselsheld	Bottlidam	230	43	903
" 22	"	Dewsbury	Hamburg	273	33	740
" 17	Hull	Rollo	Gothenburg	350	70	1,133
" 17	"	"	"	21	3	112
" 21	"	Newton	Skoghall	441	70	2,104
" 19	Manchester	Albert Edward	Gothenburg	30	13	193
" 21	Aberdeen	Athena	Hamburg	1,244	160	1,420
" 21	"	Askaladden	Port Alfred	1,000	1,000	26,000
" 20	Grangemouth	Solfid	Kotka	2,400	387	6,360
" 22	"	Vina	Hudikwall	1,760	420	11,061
			Add to Amend			
" 13	Preston	Herald	Skutskari	1,104	246	3,113
" 15	"	"	"	1,760	343	3,510
" 21	Gunderland	Isbjorn	Sundsvall	—	—	713
Aug 21	Grangemouth	Vina	Wistavarf	1,000	200	9,000
			Deduct to Amend			
" 24	Gunderland	Frik	Wistavarf	—	—	550
" 21	Grangemouth	Vina	Kallio	—	—	1,700
" 3	"	Akselhus	Christiania	—	—	464

MECHANICAL - DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Sept 26	Bridge Water	Randi	Kotka	1,311	564	7,020

MECHANICAL WET

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Sept 19	London	Binnu	Lvedstrand	1,711	340	1,740
" 19	"	"	Dimmen	2,700	300	2,600
" 20	"	Kari	Holmstrand	2,300	419	2,023
" 8	Cardiff	Ionkstone	Kingsro	4,441	384	5,847
" 19	Grimsby	Lea	Dimmen	1,230	260	3,960
" 19	Manchester	Roya	Nord Stalland	4,300	700	8,100
" 21	Aberdeen	Askaladden	Port Alfred	1,419	2,493	47,425
" 19	Preston	Dacapo	Kaga	2,700	500	3,625
" 19	Queenstons	Sheaf Lance	Chicoutimi	23,443	4,417	67,149

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New Pulp Mills Projected.

America Anticipating Larger Consumption

Thirty nine pulp manufacturers are planning increased capacity or new mills in the United States and Canada, according to a bulletin to members of the American Paper and Pulp Association, based on a survey by Mr H H Bishop secretary of the Pulp Manufacturers Association. Twenty seven others have discarded or held in abeyance plans for increased capacity or for new mills. Of the companies planning construction twenty three are in the United States and sixteen in Canada. Of those who have deferred or abandoned enlargement plans fifteen are in the United States and twelve in Canada.

This indicates essential optimism in the paper industry, said Dr Hugh P Baler secretary of the American Association the federation of the various branches of the industry in the United States in view of the fact that the American market is now being deluged with not only paper but pulp at price lower than the product is being sold for in the countries of origin, indicating that systematic dumping is in progress.

The tabulation of projected construction indicates that, compared with the present capacity, a production of 75 to 80 per cent of the theoretical capacity of the present and new mills will be all that the market would normally absorb. The increased distribution will be as follows the figures given being theoretical daily productive capacity -

UNITED STATES AND CANADA				
	Mechanical	Sulphite	Kraft	Total
January 1st 1921	7,425	2,700	904	1,049
Additions during 1921	210	90	180	195
Total January 1st 1922	8,041	2,790	1,064	2,041
Additions during 1922	470	60	-	-
Total January 1st, 1923	8,481	2,850	1,064	2,041
CANADA				
	Mechanical	Sulphite	Kraft	Total
January 1st 1921	2,541	3,080	776	26
Additions during 1921	600	220	15	-
Total January 1st, 1922	3,141	3,200	791	26
Additions during 1922	200	60	-	-
Total January 1st, 1923	3,341	3,260	791	26

Estimates for 1921 production are that the total production will be about 30 per cent more than the consumption of pulp in 1920

Waste Paper in Germany.

Shortage of Mechanical Pulp Creates Demand

According to the *Rohprodukt-handel* the demand for waste paper in Germany is distinctively lively and considerable quantities of all kinds have been taken off the market. The sorts mostly wanted are those which may serve as substitutes for mechanical wood pulp this material being scarce owing to the dry weather. Nevertheless it is very difficult to get any better prices from the mills and with present high cost of handling the stuff it does not yield more than a meagre return. On the other hand the demand for waste paper for export simply does not exist.

The demand for rags has also distinctly improved and all sorts are saleable. Descriptions which cannot be efficiently taken up in Germany are going abroad. The paper mills are seeking good cotton and linen rags, the roofing felt makers are also buying. It looks as if the stores are now beginning to empty and it is high time. M A

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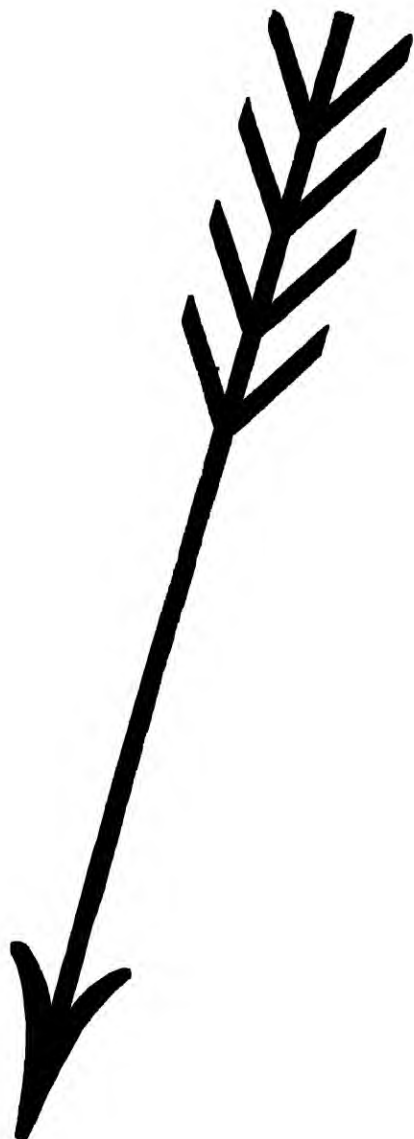
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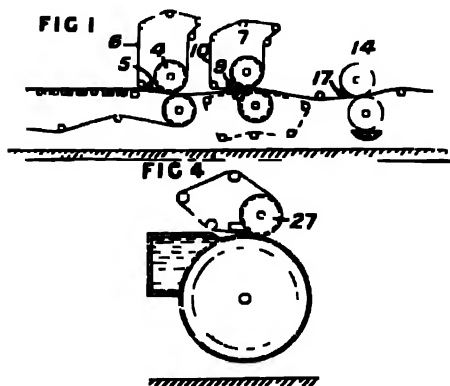
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A patent application covering wet presses for cellulose wood pulp etc has been made by Aktiebolaget Karlstads Mekanisk Verksstad. In pressing apparatus for removing liquid from between the pairs of rolls used in pressing out fibrous substances such as cellulose and wood pulp one or both of each pair of cylinders as in the couch press, the first press 7 and the second press 14 are provided



with circumferential grooves in which the water collects and with suction means 5 9 17 to remove the water so collected. Belts 6 10 may be used to protect the material in the couch press and first press. Scrapers or stops may be used in the grooves to improve the suction. Fig 4 shows the arrangement applied to the upper roll 27 of a pulp vat. An arrangement wherein the material passes upwards between the pressing rolls is described

Beet Cellulose

The urgent need of a substitute for wood cellulose in papermaking has led to investigations during late years amongst plants and

shrubs growing in all countries to avert an imminent crisis from a scarcity of all kinds of paper, especially that required for printing.

The sugar beet and the fodder beet are grown in all countries in quantities about proportional with the number of inhabitants and consequently the raw material in sugar works gives a residue or pulp in the average proportion of one fifth of dry matter per 100 of manufactured beet.

This pulp is almost pure cellulose says *The Paper* as it contains about 80 per cent of useful matter and does not contain any in crusting substance. It has several advantages over wood cellulose in addition to percentage. It is inexpensive and can be mixed with 50 and even 70 per cent of other cellulosic and especially fibrous materials giving the paper a particular tenacity.

Mixed with fibrous material this last gives it great value for laid paper and manufacture can be greatly intensified to meet unusual demands.

After making experiments during several years Senor I. S. Geronza invented a method which enables manufacture of every variety of paper. The cellulose from beet pulp will blend well with esparto, flax, hemp, nettles, cotton, bamboo, mulberry, jute, broom. It can be mixed with them in the proportion of 70 per cent and works well with all paper making materials vegetable, animal, mineral such as aniline colours, sizes etc., all of which are thus economised.

As beet cellulose does not contain any incrusting matter, nitrogenous substances or fats it can be perfectly bleached without loss of any of its qualities.

In cotton growing countries a cheap paper can be made with 70 per cent beet cellulose. By varying the proportion of this cellulose and associated fibres of different kinds very consistent or very flexible papers can be made. A good quality can be made with 50 per cent esparto pulp suitable both for writing and printing. Beet pulp can be utilised dried for ordinary paper and fresh from the diffusers or fermented for manufacture of fine white paper.

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Paper from Pine Needles and Cornstalks

Attention has been attracted to the remarkable results that are being attained in Germany in the manufacture of yarn from grasses, plants, leaves, etc. The new German industry is centred in the plant of the Deutsche Kaiserstoff Gesellschaft (German Fibre Material Co) situated at Fuerstenberg in Mecklenburg.

This plant was established in 1912. During the first year in which it was in operation it confined its activities to the manufacture and sale of the fibres. In 1913 spinning machinery was set up, and since then the spinning has been carried on on an ever increasing scale. The fibres dealt with include China grass, Australian seaweed, jute, old jute rags and shoddy worsted yarn. In addition a number of other fibres were worked up during the War. Some were abandoned afterwards as the supply to be found in Germany was not sufficient to warrant their permanent use. Among these fibres are nettle, hops, willow bark, pine needles, cornstalks, ginseng and asparagus. With the fibre taken out of pine needles and cornstalks a very strong and tough paper can be produced.

Treating

Papermak

A British patent has been granted to Mr J H Pickup covering a method of treating fibres. According to this, fibres from the leaves of agave, yucca, etc., are obtained in a pliable state, suitable for spinning and for papermaking, by allowing the material to stand and ferment in water for from two to four days at 80-100 degs F. The liquid, which may contain citric acid and alcohol, is expressed. The material is then washed and treated with slaked lime, the liquid is again squeezed out, and the material without washing, is boiled for three to five hours under 20 to 35 lb pressure, and subsequently washed

and neutralised in an acid bath, or acid salt, such as hyposulphite of soda, if the product is dark coloured or muriatic, sulphuric, or acetic acid. It is next again washed and boiled under pressure with alkali for about four hours, then washed and the alkali neutralised with acid or acid salt as before, again washed, dried, and passed through a breaker or carding machine. The process is applicable to Agave Lechuguilla, A Heteracantha, A Mexicana (Maguey), Yucca Gloriosa, Y Filamentosa, and Y Baccata.

British Capital & Newfoundland Pulp

Sir Richard Squires, Premier of Newfoundland, who has been on a visit to Montreal, said in an interview that great interest was being shown by capitalists in the forest wealth of Newfoundland. Some months ago the representatives of British and Norwegian capital visited the country with the object of inspecting what Sir Richard says are enormously valuable timber areas on the Humber River combined with accessory water power of great potentiality.

I understand, said he "that negotiations are pending between the owners of these lands and water power and certain English capitalists with a view to the development of this area."

As to the strike in the paper mills which threw a large number of men temporarily out of employment Sir Richard observed that arrangements had been come to between the Anglo-Newfoundland Development Co concerned and the papermakers, with the result that the mills had again started operations and are gradually developing into full capacity.

The Committee on Education of the Canadian Pulp and Paper Association are inviting orders for the series of text books they have prepared with much labour and care for the pulp and paper industry. The five volumes cover every phase of the subject, the price being \$5 per volume.

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Papermaking in Australia—Investigations with Local Trees—Encouraging Results—Four States Interested—Consumers Present Experimental Machine—Grant for Forest Products Laboratory—Paper Contract Appeal Dismissed—Cheaper School Books.

(From Our Sydney Correspondent)

PAPER and its manufacture from Australian timber continues to absorb a considerable amount of attention, and interesting reports are arriving from Western Australia concerning the manufacture of paper pulp from local trees.

THE investigations carried out in West Australia by the Institute of Science and Industry have so far given very encouraging results, it is stated, and they indicate that good yields of satisfactory pulp can be obtained from several of the common eucalypts.

THE director of the Institute states that the forestry departments of four of the States, New South Wales, Victoria, West Australia, and Tasmania, have agreed to contribute £250 to the cost of the work during the current financial year. The paper trade interests are also co-operating in the work and contributing to its cost. The Australian Paper Mills Co., Ltd., Melbourne, has made a grant of £100, while the newspaper proprietors in West Australia have purchased and presented to the Institute an experimental papermaking machine at a cost of over £600. Paper has been already made in this machine from pulp from Australian timbers.

THE West Australian Government has offered the Institute a site of a 20 acres of land at Crawley on the Swan River, value about £20,000, as a site for a forest products labora-

tory and has also promised £5,000 towards the cost of the laboratory if the Commonwealth will establish and maintain it.

AN interesting case concerning a paper contract has been engaging the attention of the Courts at Sydney. An appeal was made by the defendants in the case of David John Wildey against Alexander Moir and Co. and Percy Moreton Loutit, trading as Alexander Moir and Co. to set aside the verdict found for the plaintiff and for a new trial. The action which was heard before Mr. Justice Pring was one in which the plaintiff sued to recover £650 for the non-delivery of certain reams of paper on two contracts, one made in October 1919, and the other in January, 1920. The jury gave a verdict for the plaintiff for £475.

THE appellants now contended that the plaintiff was not entitled to more than a farthing damages. It was stated on their behalf that the breach charged in the declaration was the non-delivery of the usual documents to entitle plaintiff to get possession of the goods on arrival. The defendants stated they were unable to deliver the usual documents as the paper in question was part of a larger consignment imported by them, and that there were no separate documents for the plaintiff's goods. They offered, however, to deliver bond warrants which would entitle the plaintiff to immediate delivery, but these were refused. The appeal was dismissed with costs.

CONSIDERABLE controversy is proceeding over the scheme put forward by the Minister of Education in New Zealand with a view to cheapening the cost of books and stationery required by the school children. Eight labour unions have written approving of the steps taken, but opposition is forthcoming from Chambers of Commerce.

THE question came before the council of the Wellington Chamber of Commerce in the form of a letter from the Auckland Chamber which did not favour Government intervention in such supplies. The chairman (Mr. M. A. Carr) saw no reason why, in the interests of

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economy and uniformity, the department should not supply school books and stationery. Mr C M Banks dissented from that view, on the broad principle that Government trading was not favoured by the chamber. He assumed that there would not be a great deal saved, as he supposed the Government would call for tenders for supplies. On the other hand the action of the Government in supplying books and stationery direct would he felt sure, be the ruin of many of those small businesses generally found in the vicinity of big schools. On his motion, the Auckland protest was supported.

It is interesting to note how members of Parliament are sometimes committed to dubious courses by hasty acceptance of a formula. Thus in December, 1919, every candidate for Parliament was asked the question "Will you support the proposal to supply all school requisites free?" The result was that 45 members of the present Parliament agreed to support the proposal.

WHEN this matter of school books and stationery was being discussed by the book sellers a statement was made that the average annual cost of books and stationery in the primary schools is about 10s per child. The Minister of Education stated at the time that the estimate was too low. A departmental estimate as to the cost per child in the primary schools is about 20s. The charge imposed upon parents of children attending the secondary schools is substantially higher.

ANOTHER aspect of the bookselling business is indicated by the following note sent by an aggrieved person to a local paper: "Can't there be some control over booksellers' prices? I was asked 8s 6d for a book at one shop but went a little further and got it for 6s 6d."

It has been found that if, in the manufacture of filter paper, kieselsguhr is incorporated with the pulp, a material is obtained which is capable of retaining the finest precipitates, calcium oxalate, for example, when thrown down in the cold.

UNITED STATES

Imports and Exports of Paper, etc.

The total values of the imports of paper and manufactures of paper (including printed matter) into the United States, and exports therefrom, during the undermentioned periods were —

	IMPORTS	EXPORTS
July, 1921	\$7,579,730	\$2,577,445
" 1920	5,615,951	7,331,432
Jan-July, 1920-21	56,635,090	33,927,416
" 1919-20	40,600,507	48,005,042

The principal items shown in the official returns are as under —

Imports			
July	1920	1921	
News print*	\$4,313,596	\$6,496,094	
Other printing paper	5,535	6,960	
Paperhangings	19,627	42,749	
Photographic paper	53,887	45,154	
Coated paper	18,796	16,439	
Wrappings	34,999	36,515	
Jan-July	1920	1921	
News print*	\$32,746,694	\$48,170,254	
Other printing paper	120,373	176,019	
Paperhangings	208,344	245,361	
Photographic paper	196,084	204,374	
Coated paper	113,252	148,501	
Wrappings	215,525	298,583	

* Valued at not above 8 cents per lb

Exports			
July	1920	1921	
News print	\$474,174	\$121,140	
Other printing paper	1,029,646	203,643	
Wrappings	558,482	133,786	
Writings and envelopes	760,084	163,696	
Playing cards	53,220	57,656	
Hangings	128,536	12,171	
Jan-July	1920	1921	
News print	\$3,278,244	\$1,570,296	
Other printing paper	7,003,193	5,031,168	
Wrappings	3,893,107	1,650,495	
Writings and envelopes	4,757,744	3,485,444	
Playing cards	595,291	464,700	
Hangings	765,769	448,121	

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Colonial Career of a London Apprentice

A recent visitor to this country, a printer who learnt his trade in our metropolis and who is now numbered among Londoners holding important Colonial appointments, is Mr F W Knightly. On his taking temporary leave of South Africa, where he is Government Printer for the Union Mr Knightly was given a send off dinner at Johannesburg by his friends in the printing trade.

Born in London, Mr Knightly was educated at Christ's Hospital, Newgate Street and, at the age of 16 was apprenticed to Sir Philip Waterlow of Messrs Waterlow and Sons Ltd, for a period of seven years, to learn the trade of printer and stationer. His apprenticeship was served in the Finsbury Market factory where he passed through the binding department, case room, litho department, machine department and paper warehouse. At the termination of his apprenticeship he was placed in charge of some of the railway contracts then held by Messrs Waterlow and Sons of London.

In 1901, during the South African War, Mr Knightly was engaged in London by Sir Percy Girouard, the then Director of Imperial Military Railways, to proceed to Pretoria to start a printing plant to supply the railway requirements.

In 1907, Mr Knightly was offered the position of Government Printer of the Transvaal, to take over control of the Government Printing Works in Pretoria and as the Railway Department did not wish to lose his services, it was finally decided to amalgamate the two plants and staffs in Pretoria.

In 1908 the Government appointed Mr Knightly a member of the Transvaal Tender Board.

On the consummation of Union in 1910, Mr Knightly was appointed Government Printer for the Union of South Africa which comprised taking over control of the printing and stationery establishments of the other three Provinces who had contracts in the capital towns of the Provinces for their

printing requirements. On the expiration of these contracts the work was largely concentrated in Pretoria, and the offices in Maritzburg and Bloemfontein were finally closed.

Mr Knightly still retains a large staff at Capetown, who supervise the contract printing for Parliament, and the issuing of all Parliamentary publications, and where there is also a large stationery store for supplying the various Government Departments throughout the Cape Peninsula and the South West Protectorate.

In 1910 Mr Knightly was appointed a member of the Tender Board for the Union of South Africa and in 1918 he was elected chairman of the Board.

His board deals with all tenders for supplies to the various Government Departments throughout the Union, which total several millions sterling per annum, and forms no small part of Mr Knightly's official duties.

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Bronnert, E Manufacture of viscose silk 24,922
Dreaper, W P Manufacture of artificial silk 25,320 25,321
Union Bag and Paper Corporation Web controller 25,054

Specifications Published 1920

Adair J Drying of china clay and arrangements connected therewith 167,917
Heilbronner, L Impregnation of paper or paper like substances 143,235
Levy L A Artificial filaments 168,986

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De Inking Without Caustic Soda

The reclaiming of waste and print papers for the production of pulp is always of import to the mills using this grade of raw material for furnish. There are at the present time several processes on the market for the deinking of book stock and a number of paper mills have adopted methods of their own for this purpose. Sometimes these methods can be adapted to existing plants without the installation of special machinery, others call for the use of a more or less mechanical equipment.

Practically all of these processes are based on the use of caustic soda and soda ash together with some emollient for softening the stock. These processes are open to the objection that caustic soda, under heat, is very apt to mercerise the vegetable fibres, resulting in a diminution of the fibre strength and a general pulpiness of finished product. This tendency to mercerise and discolour the vegetable fibres makes a caustic soda process an extremely difficult one to use in connection with the deinking of news print stock, a field of usefulness containing vast possibilities.

A new process has recently been introduced by Mr. Edward Angier which does not involve the use of caustic soda. It is claimed that this process yields a beautiful white pulp with the fibre strength unimpaired and obviating the use of any bleach or tint. The ink is thoroughly dissolved and removed and the process can be employed not only for book stock but for news print as well, yielding a result in the latter case which is superior to the original new pulp in that it contains 20 per cent of sulphite. It requires no installation of expensive machinery, but can be employed with the existing beater and washing equipments already in operation in the average paper mill.

It is claimed that the cost of chemicals is at least 33 per cent lower than in the case of a caustic soda process, and that the matter of labour also is handled on a more economical basis.

During July the exports of American printings were as under to the countries mentioned —

NEWS PRINT

	Pounds	Dols.
Canada	12 631	2 016
Cuba	756 442	41 023
Brazil	10 702	724
Other South America	51,150	3 562
China	30,199	1 820
Philippine Islands	362,695	20 275
Other countries	906,354	51 884
Total July, 1921	2 131 173	121,304
1920	6 996,759	474 174
Jan July, 1921	21 742 966	1 570 296
1920	54 270 696	3 276 244

ALL OTHER

	Pounds	Dols.
United Kingdom	9,788	1 737
Canada	104 431	15 119
Mexico	337 056	44 427
Cuba	159 597	17 041
Argentina	8 106	13 762
Brazil	53 565	5,883
Chile	24,396	3,437
Columbia	33,095	2 876
Peru	42 088	4,474
Venezuela	17 176	2 345
China	106 122	12,107
British India	144 437	12 711
Japan	225 913	21 039
Australia	27,169	3 576
Philippine Islands	133 917	14 174
Other countries	178 014	26 945
Total, July, 1921	1 671 916	203 845
1920	7 580,919	1 029 646
Jan July 1921	31 488 547	5 031 168
1920	54,876 115	7 003 193

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Notification of dividend announcements and changes in the price of shares, especially where dealings are very infrequent, is invited

Nominal Amount	Amount Paid	Name of Company	Last Dividend	Nominal Prices
PAPER, PULP ETC				
1	1	Asco Paper Mills 8 / Part Pref	—	9/6-10/6
1	1	Annandale & Son ord	7/4	4-1
1	1	" pref	—	51/6-52/6
1	1	Becher & Co pref ord	15	27/0-28/0
1	1	Burnley	—	2-2 1/2
1	1	Bury ord (Gigs)	15	2-14
1	1	Darwen	10	14-15
1	1	Dickinson (John) ord	12 1/2	14-15
100	100	" 57 cum pref	5	58-60
100	100	" 44 / deb	4 1/2	60-65
10	10	East Lancashire	10	10-21
1	1	" bonus	2/8	4 1/2-5 1/2
1	1	Guardbridge	12/8	12-14
1	1	Hartlepool	—	4/1-5/0
100	100	Imperial 7 1/2 / Debs	—	104 1/2-105 1/2
1	1	Lloyd (Edward) 5 1/2 / pref	5 1/2	7 1/2-7 1/2
100	100	London Paper Mills 8 / deb	—	94 1/2-95 1/2
1	1	Marsden & Sons (Charles) ord	2/0	4-4 1/2
100	100	" 7 1/2 cum part pref	9 1/2	3 1/2-4
1	1	" 6 / deb	1 1/2	4 1/2-100
1	1	North of Ireland	1 1/2	1 1/2-1 1/2
1	1	Olive & Partington 57 pref	5	3 1/2-3 1/2
1	1	Olive	10	4 1/2-5 1/2
1	1	Owen (T) & Co ord	15	32/6-33/6
1	1	" 67 pref	6	12/0-13/0
1	1	Peables (A. M.) & Son	10/0	2-3
100	100	" 57 cum pref	5 1/2	2 1/2-3 1/2
100	100	" 54 / deb	5 1/2	82-93
1	1	Ramsbottom cum pref	5	15/0-17/0
1	1	Reed (A. B.) 5 1/2 cum pref	5 1/2	12/0-2 1/2
100	100	" 44 / deb	4 1/2	58-61 1/2
1	1	Reech Bridge	15	2-2 1/2
1	1	Star	9 1/2	16/6-17/6
1	1	St Neots	5	4 1/2-5 1/2
10	10	Spicer Bros cum pref	5	4 1/2-5 1/2
1	1	Wall Paper Manufacturers ord	2/0	1-1 1/2
1	1	" 5 / cum pl	—	11/6-12/6
1	1	" 1919 1st deb	47	53-54
100	100	Wiggins Tissue ord	35	14/6-15/6
1	1	" 7 / pref	7	17/0-18/0
100	100	" 8 / 1st Mt Debs	8	103 1/2-104

NEWSPAPER, PRINTING AND PUBLISHING

1	1	Amalgamated Press Ord	3/0	5 1/2-5 1/2
1	1	" 57 cum pl	5	4-4 1/2
1	1	Associated Newspapers 7 / cum ord	7	17/0-18/0
1	1	" 57 cum pl	5	24-25 1/2
5/0	5/0	Illustrated London News Ord	11 1/2	32-33 1/2
1	1	" 5 1/2 pref	5 1/2	34-35 1/2
100	100	Linotype 4 1/2 A deb	4 1/2	51-55
100	100	" 4 1/2 B deb	4 1/2	51-55
1	1	Mansell, Hunt, Catty & Co ord	3/2	14-15
10/	10/	Newman (George) ord	6 1/2	13/0-14/0
1	1	" 5 / cum pref	5 1/2	10-11 1/2
1	1	Waterlow & Sons	—	—
10	10	" 67 non-cum deb	5 0	14 1/2-15 1/2
10	10	" 6 1/2 non cum pref	4 0	7 1/2-8 1/2
10	10	" 4 / cum pref	4 0	5-5 1/2
1	1	Waldens ord	1 1/2	14-14 1/2
1	1	" 57 cum pref	5	11 1/2-12 1/2

*Tax free Historian 1/6 per Year in Rights. †Tax Free up to 10/ 1 1/2 1/2 Interim and 7 1/2 Final making 12 1/2 / for year
 ‡Share bonus of 10/ B Paid on 210 shares C Paid on 100 shares D Making 111 for 12 months ending March 31st, 1921

CHEMICALS, ETC

1	1	Brunner Mond	7 1/2	22/0-23/0
1	1	Cattner "Kellner ord	7 1/2	21/3-21/9
1	1	" 4 1/2 deb	4 1/2	41/6-41/6
1	1	Salt Union ord	3/0	70-80
1	1	" 7 1/2 non-cum pref	3/0	12/3-17/9
1	1	" 1st mort deb	2/4	13/9-14/3
1	1	" "B" mort deb	4 1/2	55-60
10	10	Stainer (P) & Co cum pref	5	6-6 1/2
1	1	" 1st mort deb	4	95-97
1	1	United Alkali	1 1/2	13/3-13/3
10	10	" 7 / cum pref	7	16 1/2-17 1/2
1	1	" 1st mort deb	5	68-70
1 1/4	1 1/4	United Indigo & Chemical	1 1/2	3 1/2-4 1/2
12/0	12/0	" 57 cum pref	12 1/2	12/3-12 1/2

Mr Cornall writes — Paper shares are dull and lifeless and tone poor at present Wall Papers fluctuated on passing of the preference dividend and finally recovered sufficient to show a rise since last week There is a demand for both Hartlepool and Olives the latter changing hands at 5 1/2 Waterlow preference issues are marked ex div John Dickinson have declared an interim dividend of 2 1/2 per cent on the ordinary Brunners are easier United Alkali and United Indigo issues are better

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Canada and Australian Preference

Mr Stevens, the new Minister of Trade and Commerce, has notified the Canadian Pulp and Paper Association that he has opened negotiations with the Australian Government to have the Australian preference to Great Britain on paper extended to Canada.

This announcement in *The Times* follows a protest raised in Canadian paper circles against what was assumed to be the neglect of Canadian trade interests in Government negotiations, or rather perhaps in the absence of desirable Government negotiations with Australia.

"British papermakers, said Mr Edward Beck, 'expect to benefit by pending tariff legislation which undertakes to give protection to certain so called 'key industries' in Great Britain among which papermaking is classed. They have also recently been granted a substantial tariff preference by Australia, and are out to recapture that market which was largely supplied by Canada during the war. It would be interesting to know how Canada came to be excluded from this preferential arrangement since it was only a few months ago that the Australia Trade Commissioner to the United States Mr Mark Sheldon in a trade conference in Toronto declared that Australia would be perfectly willing to extend such a preference to Canada if Canada would give reciprocal concessions."

Reviewing the position of the wood pulp trade in September 'S D' in the *Anglo Norwegian Trade Journal* says: "Business has mainly been for prompt and over a few months ahead. The quantities bought have been very small, and the prices have declined further."

The Finnish shippers have been able to undersell the Scandinavians very much owing to their depreciated exchange. During the last few days meantime the Finnish exchange has improved considerably and this fact may

possibly help the Scandinavians to do some business in the near future.

It is difficult under the present circumstances to state prices, as they vary a great deal and alter almost daily. The only market which may be considered fairly firm is the mechanical.

The paper mills in this country are nearly all still working short time, which will probably continue as long as the various exchanges remain as abnormal as they have been lately. The prospects of the pulp trade are therefore not very rosy, although we have probably passed the worst time of inactivity.

In order that no false impression may be created regarding the condition of employment in the China clay trade Mr Samuel Benson (secretary and manager Associated China Clays Ltd) writes to the press in order to point out the real position. He shows that as compared with shipments representing 71,000 tons per month in five months of 1914 (early war period) returns by members of the Associated China Clays Ltd give a total of only 22,000 tons per month in the eight months of the present year.

These figures says Mr Benson clearly show that the average monthly shipments for the eight months of this year are not one third of the average monthly shipments of the last two pre-war years. It must also be borne in mind that after some nine or ten months of unparalleled depression in the industry there are stocks of wet and dry clay on hand sufficient to meet the maximum demands of the trade for six or nine months whereas under ordinary circumstances such stocks would probably represent not more than three months' normal supplies.

During the past summer a large number of men have been employed on development work such as the removal of overburden and extension of existing works with the object of as far as possible mitigating local unemployment. It is obvious that such work is now practically completed.

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SAMPLES AND PRICES ON APPLICATION.



Reply to U.S. Anti-Dumping Allegation

Discussing the wood pulp situation, more particularly in relation to the attitude of the U.S. Government towards imported pulp, *Affariariden* says —

There is much talk in cellulose circles about a circular letter of instructions sent out by the Customs Division of the Treasury Department at Washington, stating that there were violations of the anti dumping provisions of the new Fordney Emergency Tariff law in the shipment to U.S.A. of wood pulp from Germany and Scandinavian countries. The letter instructed the Federal Customs appraising officers to watch out for such shipments with a view to compare the prices at which the pulp was sold in the country of exportation and the prices at which the pulp was offered to American importers.

It is reported that, so far, the Customs authorities have demanded a bond to be given for two German cargoes to cover eventual anti dumping duty which may be imposed after the investigation of the Secretary of the Treasury. As the prices for both sulphite and sulphate cellulose offered by the Swedish manufacturers to the American importers are just the same as the prices quoted to European buyers it is quite out of the question that there is any dumping from our side. The quotations given every week fully prove this fact, and if the American authorities investigate the matter on this side they will certainly soon find out that there is no reason at all to suspect any dumping proceedings in U.S.A. from the Swedish manufacturers.

On the other hand the manufacturers in Sweden have, as a rule already taken their loss on the raw materials such as pulp wood, coal etc., and written the values down to the actual cost. It appears that some of the American manufacturers have not yet taken these precautionary measures but are trying to get full payment for the raw materials bought at last year's top prices.

The directors of Price Bros. and Co., Ltd., at their dividend meeting in Quebec declared a dividend of one half of one per cent on outstanding \$42,683,200 common stock. This is a reduction from three quarters of one per cent previously paid, or at the annual rate of 2 per cent against 3 per cent inaugurated after the recent reorganisation of the company. Taking into consideration the fact that the company in the course of reorganisation last year, distributed five new shares for one of the old company the dividend inaugurated last year was at the equivalent of 15 per cent on the old and is now reduced to 10 per cent equivalent. The company therefore is still paying 2 per cent more than it was a year ago.

The *Montreal Star*, commenting on the lowered dividend, says: 'It has been argued in the street that the company might have been satisfied with a smaller multiplication of capital stock and also that the dividend was placed on too high a basis to be maintained in all sorts of market conditions but it must be recalled that it has not as yet had time for a fair test owing to exceptional world wide conditions encountered so soon after the reorganisation. The fact that the dividend was only slightly reduced is accepted as an indication that the management is optimistic on the future and must sense better conditions in the various departments of the wood business in which it is interested.

It is an invention by Messrs. Gierisch, Kraus and Waentig for the production of single fibres from bast fibre bundles, with simultaneous disintegration and removal of the wood particles and crusts; the material, as previously soaked raw fibres as raw threads, or raw fabrics is treated with chlorine scoured, then treated with dilute alkaline solutions such as 5 per cent soda lye, again scoured and then dried. The process is applicable to the treatment of flax, hemp, typha, broom, hops and nettles.

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Chemicals

The slight improvement noticeable in the chemical market since last week is occasioned by the better requirements in the export branch of the trade. AMMONIUM SULPHATE continues in steady demand at £6 10s per ton for the home trade and £10 5s to £10 10s per ton for export. BICACUM POWDER is in better demand at £16 per ton for the home trade and £16 to £17 per ton for export. CAUSTIC SODA is in fair request. Foreign makes are plentiful but British brands are preferred. Quotations for these are 76 per cent £26 to £28 10s per ton, 70 per cent £24 to £25, and 62 per cent £23 to £24 per ton carriage paid. SALICAC is in good enquiry at £6 to £6 10s per ton in bulk and £7 per ton for export. ALUM which is still moving slowly, is quoted £16 10s to £17 per ton for English grades for home trade purposes and £16 to £16 10s per ton for export. SULPHATE OF ALUMINA in good inquiry is £12 10s to £15 per ton according to grade. SULPHUR remains active. English flowers being quoted £16 to £16 10s per ton. Roll £15 10s to £16 and Rock £13 to £14 per ton. Sicilian grades are Flowers £13 10s per ton. Roll £13 and Rock £7 10s per ton.

Chemical Wood Pulp

Rather more activity is reported in the market for chemical pulps but chiefly for overseas shipment rather than for consumption in the United Kingdom. Sales to British papermakers are limited, although low prices are tempting home manufacturers to undertake purchases. Stocks on this side are diminishing and at the same time production in Scandinavia is low. Hence it is anticipated there will be forced buying before long.

Mechanical Wood Pulp

A fair amount of business is reported for mechanical pulp and there is considerable inquiry for autumn delivery. Papermakers, moreover, are now on the look out for supplies for next year but the high cost of production is causing them to hesitate before purchasing forward supplies.

Esparto

Business is still very slow and stocks remain heavy on this side. Until these get worked down therefore no improvement in demand can be expected. Prices however continue firm.

Home Rags.

LONDON—Business in home rags is very slow, although there are indications of some movement taking place. Prices on the whole unchanged.

BRISTOL—Very little movement has yet taken place in rag business but the hope is confidently entertained that it is coming along. A factor of importance is that prices are so low that stocks cannot be replaced. This, it is believed, will lead to a scarcity and higher value as stocks are reduced.

MANCHESTER—No fixed prices for rags exist at the moment but the position with regard to manilla ropes is better.

Waste Papers.

There is a little better feeling in the market for waste papers although movement of stocks is not very large. It seems fairly clear that the very bad slump, through which the industry has passed, is now over and that a better time is coming along. There have been a few slight alterations in prices, some of the grades showing a hardening tendency.

Sizing.

The demand for sizing materials is fairly well maintained although business is of small volume. The lower quotations for certain grades are likely to help to induce buying.

Loadings, etc.

Trade is slightly better than in June and July but is still very much depressed and is likely to remain so until the world trade recovers.

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OF

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CHEMICALS.

Quotations are nominally as follows — £ s d

Alkali, Ammonia, 52%, 100 works	8 13 6-8 17 6
Alum (Ground) tierces f o b L pool	24 1/2
" tierces barrele tierces	24 1/2
" tierces " Hull	24 1/2
" tierces " Glasgow	24 1/2
" tierces L pool	24 1/2
" tierces " Hull	24 1/2
" tierces London	24 1/2
Alumina Sulphate 24% bags f o r Tyne	15
" Hydrate 24% " "	15
Aluminaferric Coks, slabs Liverpool	7
" tierces " "	9
Alumina Coks, slabs Glasgow	9
Barium Chloride f o r Tyne	18
Blanc Fine	21
Bleach (soft wood) carriage paid 15 s a-26	
" (hard wood) f o b L pool net	17
Borax (crystals) f o b L pool net 34 s a-35	
" (powdred) " " net 36	
Caustic White, 77% f o b net 26	
" " 78% f o b net 24	
" " 79% f o b net 24	
" " 80% f o b net 25	
" 70% car paid f o r Lancs net 19	
Sulphite of Soda, 57%wt cks f o r Tyne	net 18
Sulphite of Soda (hard wood) f o b L pool net per lb	13
Oxalic Acid f o b London	13
Satin White " " net 13	
Sol Ammoniac (Firest) lump f o r Widnes net 65	
" (Seconds) " " net 65	
Salt Cake per ton 6 10 s a-7 1	
Soda Crystals (Bags) " Tyne 1 ton min 7	
" " ex-Wharf 7	
" f o b L pool net 7	
Sulphate of Ammonia delivered 24	
Sulphate of Copper f o b L pool 31	
Sulphur, rolls bags f o r 17 s a-18	
rock net 11	

CHEMICAL WOOD PULPS**GREAT BRITAIN**

F o b prices, with freight and insurance, work out of proximately, for ton c i f U K ports —

Sulphite, Bleached, 1st Quality	£40 0 0
" Easy Bleaching, 1st Quality	15 0 0-20 0 0
" " New" or Strong Quality	18 10 0-20 10 0
Soda, Unbleached, 1st	10 10 0-11 0 0
" Kraft or Strong	10 0 0-11 0 0

NORWAY

Per ton f o b, net cash

Sulphite, Bleached	Kr 655
" Easy Bleaching	500
" Strong	450
Sulphite, Easy Bleaching	475
Kraft	425

SWEDEN

Per ton, f o b net cash

Sulphite, Extra Bleached	Sw K 375-400
" Easy Bleaching	270-300
" Strong	230-250
Soda, Easy Bleaching	270-280
" Kraft	200

FRANCE

Prices c i f Rouen, per 100 kilos (2 cwt) based on actual rates of freight and exchange

Sulphite, Bleached, Superior	Fr 140-175
" Ordinary	140-150
" Easy Bleaching	115-120
" Unbleached, Strong Prima	100-120
" Secunda	80-100
Soda Pulps Bleached Superior	130-150
" Easy Bleaching	110-120
" Strong, Unbleached, Prima	95-105

UNITED STATES

Foreign ex Dock —

Sulphite, Bleached	Dols 175-4 50
" Easy Bleaching	140-3 50
" Unbleached	130-3 75
Sulphite, Bleached	130-3 75
" Unbleached	130-3 75
Kraft Pulp	130-3 75

Domestic delivered Mill —

Sulphite, Bleached	175-4 50
" Unbleached	140-3 50
Soda, Bleached	140-3 50

CANADA

Sulphite, Bleached	50 00-60 00
" Easy Bleaching	60 00-70 00
" Strong	70 00-80 00
Sulphite, Kraft	80 00-90 00

MECHANICAL WOOD PULPS.**GREAT BRITAIN**

F o b prices, with freight and insurance, work out of proximately, for ton c i f U K ports —

Pine, 30% moist, unwrapped, prompt forward delivery	£4 5 0-4 10 0
" dry, prompt delivery	10 0 0-11 0 0
" forward delivery	11 0 0-12 0 0

NORWAY

Per ton f o b

Pine, 30% moisture	Kr 1000
" dry	2100

SWEDEN

Per ton, f o b Net Cash

Pine, 30 per cent moisture	Kr 50-60
" dry	110-120

FRANCE

Prices, c i f Rouen per 100 kilos (2 cwt) based on actual rates of freight and exchange

Pine, 30% moisture	Fr 60 00-70 00
" dry	100 00-110 00
Aspen, " fine dry	100 00-110 00

CANADA

Per ton (at mill)	Dols 50 00-60 00
-------------------	------------------

ESPARTO.

C I F U A Ports

Spanish—First Quality	£6 1s 6
Gran	
Bona and Philippville—First Quality	4 5 6-4 1s 6
San and Gabes—First Quality	4 5 6-4 1s 6

ROME RAGS.

Nominal Prices

LONDON	
N. White Cuttings	36/6
New Prints and	
Soleas	36/6
New Duck Cut	
tings (best)	65/6
" (selected)	36/6
" (ordinary)	44/6
Outshots	16/6
London Seconds	4/6
Country	12/6
Soft	12/6

BRISTOL	
Flies	26/6
Outshots	36/6
Seconds	14/6
Thirds	4/6
Mixed Bagging	3 3

MANCHESTER

Flies	36/6-25/6	Blues	9/6-11/6
Outshots (best)	18/6	Bagging	4/6-6/6
" (ordinary)	12/6	(common)	3/6-4/6
Seconds	16/6-12/6	W Manilla Rope	14/6-16/6
Thirds	3/6-4/6	Burat Tares	5/6-5/6
Prints	7/6-10/6	Gunny	7/6-9/6
Selected-Prints	16/6-14/6		

EDINBURGH

N W Cuttings		Light Prints	
(selected)	7/6	(extra)	24/6-26/6
N Light Prints	45/6	Dark Prints	14/6-16/6
N Dark	25/6	W Manilla Rope	26/6
N Blue Dungarees	45/6	Tarred	14/6
Superfines	2/6	Hemp	35/6
Second Flies	40/6	No 1 Bagging	7/6
Best Seconds	20/6	No 2	4/6
Ordinary Seconds	20/6	Common	2/6
Thirds	16/6		

GLASGOW

Best Flies	25/6	N Lt Flannellettes	35/6
Second Flies	20/6	W Manilla Rope	26/6
Ordinary Seconds	18/6	Tarred Manilla Rope	26/6
Common Seconds	14/6	Tarred Hemp Rope	26/6
Old Best Lt Prints	20/6	No 1 Canvas	40/6
Old Clean Prints	17/6	Second Canvas	26/6
New White Shirt		New Rope Ends	12/6
Cuttings	44/6-70/6	Best Clean Bagging	5/6
New Light Prints		Common Bagging	1/6
and Soleas	33/6-40/6		

FOREIGN RAGS.

Prices c i f Thames

Extra Linens	60/6	Blue Linens, No 1	40/6
White Linens No 1	55/6	Furdans	13/6
" No 2	40/6	Old Bagging (solid)	6/6
" No 3	36/6	(common)	4/6
" No 4	26/6	Hemp, tarred in coils	40/6
" No 5	13/6	Hemp Strings	40/6
Gray Linens (strong)	50/6	New Cuttings	
(extra)	60/6	White Linens	78/6
White Cotton, No 1	33/6	Unbleached Linens	78/6
" No 2	23/6	Gray Linens	7/6
" No 3	19/6	Extra White Cotton	70/6
" No 4	14/6	Ordinary	50/6
" No 5	12/6	Curran Cuttings	34/6
White Knitted	36/6	Buy	36/6
Mundins	18/6	Extra Light Prints	27/6
Extra Light Prints	22/6	Unbleached Cotton	12/6
Light Prints	14/6	Oxford	37/6
Dark Prints	6/6	Flannellettes	40/6
Blue Cottons, No 1	14/6	Blue Cotton	30/6

SALING TWINE.

1st per lb	13d per lb	14d per lb
2nd per lb	11d per lb	

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	per cwt
Cream Shavings	16 1-18 6
Fine Shavings	16 1-18 6
Second Shavings	16 1-18 6
Cartridge Cuttings	16 1-18 6
Best One Cut	16 1-18 6
White Woody Shavings	16 1-18 6
Manilla and Buff Cuttings	9 1-11 6
Woody One Cut	7 1-9 6
White Wood Pulp Cuttings	8 1-10 6
Pam Shavings (Light Colours)	5 1-7 6
Pam Shavings (Dark Colours)	5 1-7 6
Ludgers	16 1-18 6
Heavy Letter	16 1-18 6
Light Letter	16 1-18 6
Quire (Best)	16 1-18 6
Quire (Woody)	16 1-18 6
Best Pamphlets	16 1-18 6
White Woody Pamphlets	16 1-18 6
Coloured Woody Pams	16 1-18 6
News (Flat)	16 1-18 6
Crushed News	16 1-18 6
Kraft Browns	16 1-18 6
Light Browns	16 1-18 6
Mixed Browns	16 1-18 6
Leatherboard Cuttings	16 1-18 6
Coloured Cards	16 1-18 6
Strawboards	16 1-18 6
Mixed Papers	16 1-18 6

COLOURS. Nominal Prices, net, delivered in Free Packages

Mineral Black	Per Ton	£9 1s 6
Carbon Black (English)	Per lb	1 1s 6
Carbon Black (American)	Per lb	1 1s 6
Ochre (English and Irish)	Per Ton	11 1s 6
Ochre (Spanish), splendid barrels, gross weights,		
casks free		18 1s 6
Red Oxide 50%		15 1s 6
Red Oxide (Spanish)		15 1s 6
Venetian Red		17 1s 6
Burnt Turkey Umber		20 1s 6
Brown Umber		20 1s 6
Vandyke Brown Powder		20 1s 6
Soluble Brown Crystals		20 1s 6
Prussian Blue Paste, 30%	Per lb	1 1s 6
Prussian Blue Powder		1 1s 6
Brown Blue		1 1s 6
Chrome (Pure)	Per Ton	£150 1s 6
Pure Zinc Oxide		45 1s 6
Lithopone, 30%		35 1s 6
Paste Black 27		24 1s 6

*According to Brand

ROBIN Per cwt net ex wharf London -

	B	FG	K	M	N	WG	WW
American	17/-	17/6	18/-	18/-	20/-	20/-	24/6
French			15/-	15/-	18/-		

In barrels, tare 20 per cent in casks, tare 7 per cent

SIZING. Prices are nominally as under -

English Gelatine	Per cwt	120/6-125/6
Foreign		120/6-125/6
Fine Scotch Glue		120/6-125/6
Best Long Scotch Glue		120/6-125/6
Common Black Glue		120/6-125/6
"Town" Glue		120/6-125/6
"Bone" Glue		120/6-125/6
Foreign Glue		120/6-125/6
Bone Glue		120/6-125/6
Gelatine Blue		120/6-125/6
Picker Waste	Per ton	£45 1s 6-£53 1s 6
Star Hide (Shavings, No 1)		45 1s 6-53 1s 6
Common Hide		35 1s 6-45 1s 6
Tanners' Wet Pieces		4 1s 6-6 1s 6

STARCH. Delivered

Maize—Crisp	£20 1s 6
Pearl	17 1s 6
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Special (1/2 cwt cases)	16 1s 6
Farina—Special	16 1s 6
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Rice—Granulated (in bags 100 tons lots)	16 1s 6
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Dextrine—Superior	16 1s 6
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China Clay, in bulk f.o.b. Cornwall, 35s to 75s (highest grade) per ton. The extra charges (including filling), per ton, for bags and casks are: Single bags 31s 6d double bags, 29s 6d, half ton casks, 25s 6d., quarter ton casks, 20s 6d., in casks, with extra iron hoops, 3s per ton more.

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Mineral White (also known as Terra Alba, and Sulphate Line), per ton for at makers' works, less 4 1/2% —
Superfine 1st and 2nd 67/6—74/6
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Fine, second quality
Factory, best quality
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Gypsum (Mineral) makers' works, 4 1/2% —

No. 1	12/6	Seconds	50/6
Factory	65/6	Thirds	48/6
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Some Extracts from the "Paper Trade Review."

New mill at Leven, Liffshire, built by Mr Grosset (late of Grosset and Dixon, Balbirnie Mills), with single cylinder machine by Messrs James Bertram and Son

An order sanctioned the employment of young persons from 8 a.m. until 6 p.m. (in stead of from 7 a.m. to 7 p.m.), in non textile factories and workshops in which cardboard making and strawboard making were carried on

DEATH of Mr William Chadwick senior partner in the firm of Messrs William Chadwick and Son, Broughton Grove Paper Works Manchester

IMPROVEMENTS in dandy rolls were patented by Mr Wm Green of Camberwell and George yard Lombard street

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Re IVOR HAMILTON MARTIN printer and stationer, 80 Upper Thames street 1 C and 94-96 Palmerston road Brondesbury NW. This debtor who failed in June last attended at the London Bankruptcy Court on September 20th for public examination on a statement of affairs showing unsecured liabilities £409, and net assets valued at £283. In answer to Mr Vyvyan, assistant official receiver, the debtor said that in 1910 he and another began business in partnership as printers and stationers at Talbot House Arundel street, Strand, under the style of the Office Supplies Company. After six months' trading the partnership was dissolved by mutual consent and he (the bankrupt) went into employment. He served in the Navy during the war and in March, 1919, began business on his own account as a printer and stationer at 80, Upper Thames street, under the style of Hamilton Martin and Co. Later on he was joined by three partners and in December, 1920, they acquired additional premises at 94-96 Palmerston road, Brondesbury, and fitted them up with printing machinery at a cost of £200. In April last the partnership was dissolved and he (the bankrupt) continued the business and assumed the whole of the liabilities. In May he closed the Brondesbury premises and sold the machinery for £80. He traded at Upper Thames street until June 22nd when execution was issued against him and he fled in haste. He attributed with, "tendency to labour unrest and to lack of Directors." The examination was concluded

Wrinkles in Felts.

There are so many reasons why a dryer felt will run into a wrinkle, apparently without any reason whatever. On a new dryer felt when all the rolls are in place and the felt becomes wrinkled it is usually because the felt is too tight. In a case like that the felt runs into a straight wrinkle and it shows that there are no rolls out of place. The cause of this is the paper has moistened the felt and caused it to shrink until it becomes so tight that it jumps into a straight wrinkle.

Getting a wrinkle out of a new dryer felt is a hard and difficult proposition. If the wrinkle is discovered before it has a chance to become well formed there is a chance to save the felt. But if the wrinkle becomes well fixed it would be impossible to save the felt. The best way is to place men all along the edge of the felt on both sides of the machine and try to pull the wrinkle out. When this has been done and the wrinkle is out a solution of size and water should be rubbed where the wrinkle was. This will shrink the felt at the point where it was wrinkled. This part of the felt will when dry become more slack than the rest. This slack can be taken up and then the felt used as if nothing had happened.

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Paper Trade Review

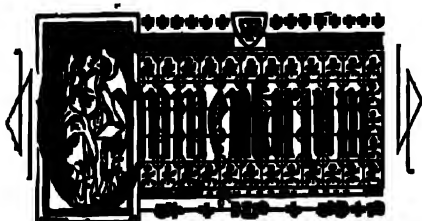
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 NUMBER 16

LONDON OCTOBER 14, 1921.

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A MUCH better spirit prevails in the paper trade as the result of three weeks steady improvement in business. If the improvement is slow it is none the less sure, and is therefore, particularly gratifying after so many spasmodic attempts to waken up. I ven now the reaction has not reached to all parts of the trade, and there are not a few merchants, especially on the common paper side with whom absolute depression still prevails. It will take time for the improved tone to extend its influence over every section, but there is now scarcely any doubt that the feat will be accomplished. There will be no boom and if we can reach a steady trade it will be as much as we dare hope for. Not until the international situation rights itself will we be justified in looking to a really good demand and normal conditions in the markets.

WHAT matters most just now is to restore confidence, diminish unemployment and resume that function of commercial intercourse which comprises the provision of a margin of profit. The signs are clearer that this period is being approached. More mills are finding it possible to work a full week and in some cases deliveries can only be promised two or three weeks ahead. The advantages and other large paper users are making business on the immediate season, and to

every hand there is more show of industrial activity. But there is a long way to go before we are out of the wood. Our biggest industries are in a crippled state as yet, and until they are restored to some thing resembling healthiness, it is futile for other sections of manufacture or trade to commence counting chickens.

THE uncertainty which prevails in regard to foreign paper is leading many importers to finding English mills capable of producing suitable alternatives. It is not merely the possibility of a tariff that is causing them to take this step, but rather the unreliability as to quality delivery and price. Apparently mills in one or two countries are so well booked with orders for elsewhere, that it is impossible to calculate with any certainty what is going to happen to orders placed by our own merchants.

DESPITE all the advantages apparently to be gained by the state of the exchange, the solid fact that is coming to light is that business is smoother, better and much more reliable when conducted with our own mills. Prices now are not more than double pre-war and quality is back to its normal standard. The policy of cutting losses is now bringing back its reward. Granted a sustained demand, even at the present standard, the time will soon come when old contracts will expire and existing stocks of material will be cleared. By that time we may count on a general recovery and the prospect of profitable manufacture. The foreign and colonial markets which were ours in the old days will surely come back to us, simply because English paper is once more as reliable as it used to be. Millions of price

will just as surely be rectified once the nations with a debased currency and a camouflaged prosperity begin to face their true condition and international indebtedness

* * *

UNLESS the National Association of Whole sale Stationers hurries up with its official recognition of the paper standardisation scheme, they will wake up to find its acceptance an accomplished fact in the practical realms of their own domain. It is only necessary to survey the new price lists and sample books that are coming forward with increasing frequency to appreciate the trend of affairs. The most progressive houses in the trade are well on the way to the new standards, for no other reason than that they see the economy and sense in them and realise that printers desire them. I hope first in the field will reap the benefit of their enterprise in more ways than one. Just to cite a few instances that come at once to mind of the approach to standardisation. Dickinson's specify their sizes in English and metrical equivalents and in many instances give the grammes per square metre, Wiggins, Leape work similarly and sell their boards by lbs per ream or gross. Ralph Dennis accepts the new 500 sheet ream and metrical equivalents in substance with grammes per square metre and sizes in inches, Gidney Rourke eliminate names and work to plain inch dimensions, the 500 sheet ream, the centum in boards and caliper measurement for substance in place of meaningless ply terms. Very shortly we shall see one house come forward with the complete scheme of sizes, substance numbers and the mille basis. That particular house will secure an advertisement better than all the publicity schemes that can be devised and it will cost nothing.

* * *

THE Technical Section has just issued to its

members a Bibliography of the articles on paper and papermaking which have appeared in the various trade journals. As a commencement, the publication reflects great credit on the Committee responsible, but naturally there is yet a vast amount of work to be done in this direction. The Bibliography of paper making is a subject covering an immense and ever widening field. This first compilation touches the fringe and demonstrates the determination of the Technical Section to make itself an absolutely indispensable part of the papermaking organism. Having put its hand to the plough, there is no going back in the bibliographic field. The first necessity of the trade is a complete volume containing the bibliography of extracts, articles and books covering a long period. Under the main headings of history, materials, machinery, technique and administration there may be scope for so many separate publications as a foundation and epitome of past progress. Subsequent publications might be in the form of sections arranged under the main classifications and produced in a manner convenient for collation for future volumes. Perhaps at a near date we may have a complete bibliography of books on paper and papermaking.

* * *

IN more than one quarter we hear of mills taking their final stand on the price question. Cutting has gone to its utmost limit and no further reductions will be made. Already there are signs of actual hardening in some grades and inquiry is being stimulated as a result.

THE Japanese are developing the manufacture of veneer paper, which consists of very thin veneers or wood shavings backed with paper. Fancy paper with figures of flowers, butterflies, leaves or special designs in bright colours may be used and they show through the diaphanous layer of silvery wood with beautiful effect.

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Animal Watermarks.

Some Curious Old Designs

That inveterate investigator of old paper customs, Mr Dard Hunter, has got together some interesting information on old water marks of animals which is set forth in *Paper* (N.Y.) —

Before the eighteenth century all paper was made on 'laid' moulds and the sheets so made retained the impressions of the laid and chain wires which were used in the construction of the moulds. Any wire work, in the form of objects, added to the top of these laid and chain wires also made impressions in the paper and these indentations are now called watermarks.

Why they are called by this name is not known as the mark in paper is no more made by the use of water than the sheet itself. In German, this impression in the paper is called a 'wasserzeichen' which like the English term watermark is confusing. In French it is called 'filigrane' and in Dutch 'papier merken'. These two names are more suitable. Ames in 1749 calls them papermarks, and Breitkopf in 1784 writes of them as 'papierzeichen'. In 1790 a patent was taken out in England by John Phipps for teaching writing and drawing by means of 'water marks' in paper. This is perhaps the first instance where a papermark was given this name, so the term watermark must have originated in the late eighteenth century.

These wire firms were held in place on the surface of the moulds by means of wire stitched back and forth over the mark. In some of the older watermarks in paper it is quite possible to detect these sewing on wires when the sheet is held to the light as they held the pulp thinner at these points. In many of the very early marks these sewing wires are quite pronounced owing to wire being used that was almost as large as the wire used in the mark itself. At least one writer has stated that the wire forms were fastened to the moulds by the use of solder, but this appears to be a mistake as this method was not used until the first part of the

nineteenth century. Perhaps these writers have mistaken the impressions left in the paper by the clumsy wire stitches and thought they were caused by the use of solder.

In noting the watermarks of the thirteenth century the simplicity is striking, as these marks were made of heavy wire which would not admit of much twisting or forming into complicated designs. During the fourteenth and fifteenth centuries the wire gradually became finer and the marks more in detail.

A great deal has been written on water marking from an historical point of view, but their value as a means of determining dates of paper, books and prints of the locality where the paper was made, is to be questioned. Few of the early watermarks bore dates and even when they do, the date of the mark must not be accepted as the time of the printing on that particular sheet of paper. The sheets might have been dated in the watermark and then remain in the mill a great time before the paper was sold and after being purchased the paper might have been held in the printers warehouse for years before being printed upon. Also a dated mould might have been used for many years with the same date — the papermaker not troubling to change the figures.

Marks of Identification

In the early centuries of papermaking the average workman could not read and he had to be appealed to by means of pictures and symbols. The watermarks therefore were likely used to designate one size of paper from another and give it a name. To simply have marked a mould with letters or figures would have meant nothing to the artisan of the fifteenth century. It was necessary to convey the meaning to him by illustrations. Such marks as foolscap, hand, post, crown and pot were marks of identification to distinguish one sized mould or sheet of paper from another. The foolscap mark traces to 1479 but in the middle of the eighteenth century a figure of Britannia was substituted for this size of paper in England. Pot marks are not found after the seventeenth century. They were replaced by the Dutch or English coat of arms. Hand was used by the early papermakers in Germany and the Netherlands and this mark sometimes resembles an iron gauntlet or

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glove. The initials of the maker often appear on the wrist. The hand watermark was first used about the middle of the fifteenth century. The post horn mark dates from the time of the General Post Office in England about 1670.

Most of the writers on the subject attach importance to small changes in watermarks that often occur. This was due to the wire form having become detached from the mould and being re-sewed by a man unskilled in wire working—possibly the vatman or coucher. Every time the wire mark came loose from the mould and when it was attached again it was bound to become distorted in some detail. This would account for the vast number of marks of the same subject supposed to be from the same mill, varying somewhat. The two watermarks of the bull were traced from the paper on which the *Biblia Sacra*, attributed to Gutenberg, was printed between 1450 and 1455. In these two watermarks there is a striking resemblance. No doubt one is a copy of the other and they were supposed to be identical. In the fifteenth century it is probable that two moulds were used in working at the vat, the same as at the present time. Each mould had a bull as the mark and they may have been made by two different workmen, each one trying to rival the other in design, but keeping the same general size and contour.

After watermarking became general in the fifteenth century, it is not often that a sheet is found without some kind of a papermark. These emblems or designs were nearly always placed in the centre of the sheet or where the paper was folded in book printing. It is rare, before the eighteenth century, to find two marks in one sheet of paper, but after this time we find the makers' name on one side of the sheet and a symbol or design on the other.

Grouping of Marks

These watermarks, from the commencement of the art until the latter part of the eighteenth century when they began to lose their simplicity, may be consistently divided into four divisions—

The first of these classes or groups would embrace designs in the form of crosses, ovals, circles, knots, triangles, three hill symbols and forms of the simplest kind which were easily twisted in wire. There were at this

early period, a goodly number of Pomme crosses—a Greek cross with balls or circles at each end of the cross bars. This was an early Italian mark as well as the circle surmounted by a Patriarchal or Papal cross. In this mark the circle was symbolic of the endless world. It is this mark that was also used by many of the early Italian printers. The marks of this first group were used from the beginning of watermarking in the late thirteenth century until the first quarter of the fourteenth century.

The second division of papermarks would include man and his works. We find the male figure in limited numbers as well as the head, feet, hands and other parts of the body. The female figure is rare in old watermarks but the mermaid is plentiful. The works of men would embrace agricultural implements and small tools such as shears, pruning hooks, knives, hammers and axes. Also ships, anchors, anvils, keys, scales, horns, weapons, utensils and the like as well as lettering, escutcheons and architectural ornaments.

In the third class such watermarks as flowers, leaves, vegetables, grains, plants and fruit would be listed.

The fourth and most interesting group from an artistic viewpoint would embrace wild, domestic and legendary animals as well as snakes, fish, fowl, snails, turtles, crabs, scorpions and all other varieties of insects. It is the watermarks of animals that required the most dexterity to twist into wire and which give the early artisans the most outlet for their artistic skill.

The bull's head, an early animal mark, made its appearance in the fourteenth century and was a favourite emblem with the paper makers for 200 years. The head was sometimes used without any appurtenances but more often it is discovered surmounted by a Latin Cross, Rose of Bliss, half moon, wheel, crown, nails or other symbols. Also we find the bull's head with a snake curled around the staff of the cross projecting from its head, very much like a caduceus. The watermark of the bull's head both surmounted by the snake and cross and Rose of Bliss are found in some of the sheets of paper used in Myles Cloverdale's translation of the Bible, printed in 1534, the first Bible printed in English. The bull's head mark in various forms

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may also be seen in the paper used by Caxton, Colard Mansion, Gerard Leeu and other noted printers who bought their papers from the Low Countries. The full figure of the bull is not as common in watermarking as the head alone, but when it does appear it is interesting to note that the tail, in most cases, is divided into three strands.

The Popular Bull.

The bull as a symbol was handed down to the early papermakers by the ancients, for chief among the multitude of idols or symbols was the god Apis, represented by a bull. Many other animals especially the cat and ibis, were deeply honoured among the ancient Egyptians, as we learn from their own monuments and from the writings of the old historians. All these creatures were symbols as well as idols to the Egyptians, - symbols to the educated and idols to the ignorant.

The unicorn, like the bull, is found in the paper used by Caxton, and holds a prominent place in watermarks of early times. M. Briquet has found over 1,100 examples of this animal used as a paper mark. The unicorn was used as a symbol of purity and innocence. The horn of this mythical animal was thought to be a panacea for all illness and an antidote for all poisons.

Dogs formed a favourite watermark for the old papermakers, and we find numerous specimens covering a period of 200 years. These canine watermarks seem to usually represent the greyhound and many of them combine much vigour and motion displaying a sense of drawing not found in many other early papermarks. The dog is symbolic of a number of things - chief among which is fidelity. Certain species of this animal were considered sacred by the Egyptians and there are instances where they have been mummified by those ancient people showing a very high regard for this particular animal.

The camel is prominent in the papermarks of the fifteenth century and is usually seen in rather a grotesque attitude and of crude workmanship.

Elephants, leopards, goats, lambs, dragons, sheep, horses, cats and deer are found in abundance in watermarks from the incunabula period up to the eighteenth century.

The cock is not a common papermark, but a variety of specimens have been traced, some

of which show a deal of ability in the drawing as well as the fashioning in wire. The cock was invariably used by the early papermakers with open bill, which according to the authorities, is symbolic of the dawn or lightness. Birds of many kinds and forms are plentiful in papermarks as well as fish, turtles, crabs, snails, scorpions and insects in great variety.

Each of these watermarks, whether the human figure, man's works, animals or vegetation seems to have had its place in the world of symbolism, but whether or not they meant anything other than trademarks to the early papermakers is mere conjecture. However, it is reasonable to think that they bore some significance and held some sort of a vital place in the lives of the artisans that fashioned them, but whether they were used entirely as works of symbolism it is not possible to say.

The study of watermarks does not seem to have attracted much attention before the early eighteenth century. In English the earliest writer to make mention of them appears to be John Lewis, writing in 1735. This work only mentions them as appearing in paper used by Caxton, the first printer in England. Breitkopf was the first writer in Germany to attach enough importance to watermarks to write of them and in French, Jensen seems to be the earliest writer to treat of papermarks from an historical viewpoint.

During the nineteenth century many works were compiled dealing with the historical importance of watermarks in paper and a great interest has been shown among bibliophiles during the last fifty years. There have been altogether about three hundred books and pamphlets written on this subject and in these works fully twenty-five thousand reproductions of old watermarks have been illustrated.

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The Technical Section.

Views on the Edinburgh Conference

By JAMES STRACHAN, F Inst P, I R N S

The writer regrets very much his enforced absence from the Edinburgh Conference for numerous reasons. As a member of the Scottish Committee responsible for the arrangements of the meetings, I had been looking forward for many months to the first Scottish Conference, which has passed off so successfully. Then, as a native of Edinburgh, educated at George Heriot's School and the Heriot Watt College, both of which institutions were visited by the members of the Section, I would like to have renewed old associations under such pleasant circumstances.

Dr Macdonald's masterly resume of the attitude of modern chemistry to industry and his plea for fundamental research cover a wide field and supply much material for thoughtful consideration by the papermaker. His paper is timely, and most appropriately read in Edinburgh where, as the members of the Section have seen, the finest facilities for research exist. As Mr Gemmell has remarked, the question of research should be brought to a focus, and something practical attempted. We ought to have a Research Association for the paper industry. Some of the members have suggested that the present time with its bad outlook, is the worst possible time to approach the papermaker on the subject. I do not agree with this altogether. If the papermakers really appreciated the value of research as an investment the requisite funds would be forthcoming to keep our end up against our foreign competitors and at the present more than any other time.

This subject is beset with at least three difficulties. Major Aitken has already hinted at one, viz the difficulty of getting research men qualified to undertake the work with maximum expedition and economy in the practical application of results to the paper industry.

In the second place, lack of technical education means lack of appreciation of the value of research. I am afraid that it will be difficult to obtain the appreciation of many papermakers until the younger generation is educated up to comprehend the value of this work. The Technical Section must concentrate on the educational question as it is the most important factor in the industry.

The third difficulty is one created by the chemist himself. Too often the chemist, who has been labouring long on a problem, is apt to lay too great a stress on his discoveries, and magnify their importance. In other words he becomes so short sighted with the close work of a narrow field that he loses all power of perspective vision.

Hydration of Cellulose

I do not wish to speak disrespectfully of the work done in Germany and America on the hydration of cellulose during beating, mentioned by Dr Macdonald, but I would like to add a word of warning. I have myself followed this question closely, and I shall be very much surprised indeed if within the next few years any practical commercial process is evolved whereby the power required for beating will be reduced by, say, fifty per cent by the use of chemicals and without detriment to the stock.

Many of the results on which these claims are based depend upon physico chemical reactions, the exact significance of which are open to debate. So far as we have gone, I see no solid or valid reason for deserting the physical or mechanical theory of beating in conjunction with our knowledge of colloid substances. It cannot be denied however that the application of certain chemicals affects the process. Every practical papermaker knows that he can shorten the time of beating by tendering the stock during bleaching but it is a dangerous game and difficult to control.

Mr A W Smith, in his paper on 'Interchangeable Factors in Esparto Boiling' has reviewed our knowledge of an interesting subject. If this paper were accompanied by graphs showing the relationship between the three factors—time, pressure and concentration of liquor as affecting yield—it would be a most invaluable contribution to the technology of

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esparto This subject introduces a fourth factor not mentioned by Mr. Smith, but so intimately connected with the boiling process that it cannot be divorced from it, viz, consumption of bleaching liquor. Drastic boiling results in a low yield and easy bleaching, while the maximum yield obtained from minimum boiling requires a higher consumption of bleach. The stock resulting from these extremes varies so much in its characteristics that we find certain mills controlling their boiling process entirely by the type of stock required for any particular class of paper. Beveridge has explored this subject to some extent as detailed in his "Papermakers' Pocket Book" but much is required to be done in this field. Here laboratory experiments may be employed to obtain a preliminary outline of the field but the final results must be those obtained under practical working conditions as so much depends on the nature of the finished paper.

New Ground.

Major Aitken has broken new ground in his paper on 'Fractional Boiling of Esparto,' and he is to be congratulated upon the clear, concise fashion in which he has presented a rather difficult subject. In his theory of the subject I agree thoroughly with him and he has presented it very well.

Dr. Macdonald has criticised Major Aitken's figure of 58 per cent yield from Spanish esparto. It is possible in my experience to get such a yield of papermaking stock of good colour from esparto, but it is not pure cellulose. This may explain the point under discussion.

With regard to the practical advantages in the application of the process, it is, perhaps, rather unfair to express an opinion on the subject as presented by Major Aitken because I know he was limited by the time at the disposal of the Conference. Briefly however I think that Major Aitken has not mentioned either the greatest advantage or the worst disadvantage of the process. The dis-

advantage I refer to lies in increased coal consumption for boiling and recovery. These processes as conducted at present, have what may be called a closed heat circuit, the waste heat from the boiling liquors being conserved in the recovery plant. In addition to the extra heat which would certainly be necessary for the double boiling in the fractional process, Major Aitken proposes to run the first liquor with its valuable heat content, to waste. The second liquor only is sent to the recovery plant but, as it contains only a small quantity of organic matter, this liquor would no longer supply its own fuel as in the ordinary practice. The roasters would require to be fed with coal or coke. Perhaps Major Aitken can favour us with some figures on this subject.

I may say, in conclusion that I have always associated the idea of fractional boiling with that of recovery of by products, such as alcohol, from the waste liquors, and herein in my opinion lies the chief advantage of the process. The first boiling yields a liquor containing the bulk of the organic matter dissolved in digestion, associated with such a small amount of soda that the neutralisation of the latter would be inexpensive and a fermentation process could be employed for the recovery of alcohol. The second boiling yields a liquor containing the valuable soda which is recovered.

It is along this line I consider, that further inquiries and experiment should be prosecuted, because the extra expenditure of time and fuel in the fractional process demands greater compensations than those indicated in the paper under discussion.

DANISH manufacturers have discovered that several German firms are using forged Danish trade marks with a view to exporting their goods to France and other Allied countries. Notification of the frauds has been sent out by the Association of Danish Manufacturers.

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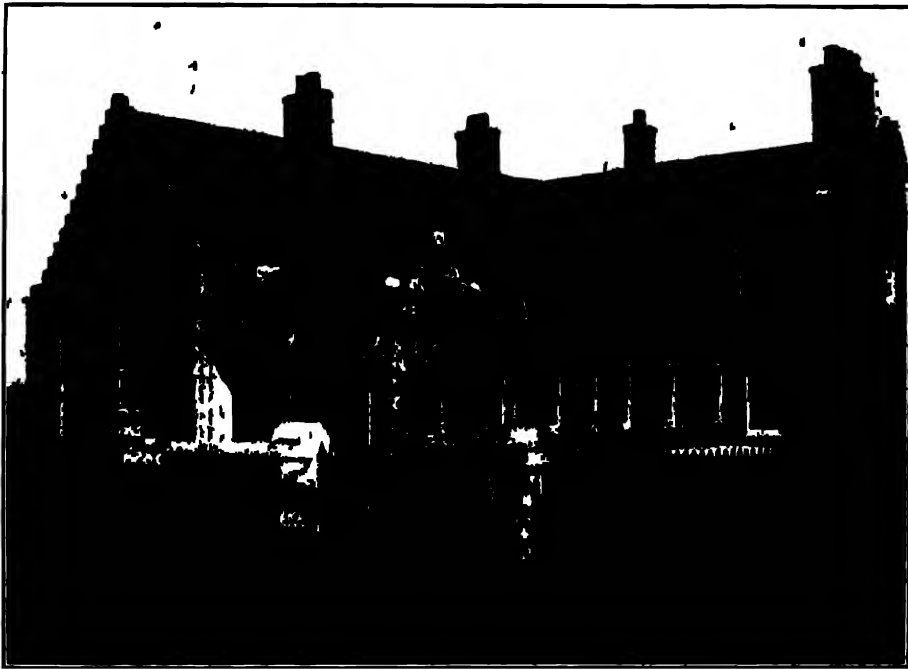
Guardbridge Paper Co. Pays Tribute to War Heroes.

The Guardbridge Paper Co., Ltd., Guardbridge Fifeshire, has erected an appropriate memorial to the employees of the company who fell in the Great War. It takes the form of an institute, which will provide means of recreation and entertainment and even of study for those who use it. The building, of which we reproduce a photo-

Robert Myles, Robert M'Gillivray, Robert C M'Gregor, Frederick T Robertson, Gordon Rooke, Hugh Ross, John Ross, William Stark, Jas Turnbull, Alex Wallace, Andrew Wallace, Chas Wallace, and Thos Watson.

The Institute was dedicated and opened on Sunday afternoon by Mr Wm D Dixon, chairman of the directors, in presence of a large gathering.

Mr H E Haig, secretary of the company, who presided at the opening ceremony, said they were all proud of the supreme manner in which their heroes responded to the bugle call of duty. Though none of them there required a memorial to keep their names fresh in their minds he thought it was right to erect a monument in order to remind future



MEMORIAL INSTITUTE ERECTED BY THE GUARDBRIDGE PAPER CO

graph, contains a billiard room, men's reading and games room, women's reading and games room, baths and caretaker's rooms. In the entrance hall there is a bronze tablet erected on the wall bearing the names of the 33 men who fell; while in the men's reading room there is a roll of honour with the names of 120 men who answered their country's call.

The names inscribed on the memorial tablet are —Andrew Adam, Fulton Anderson, David P Armitt, Peter Brown, Thos Brown, John Christie, Henry J Cunningham, Andrew Croll, Reginald N S Gowans, M M and bar, Alex Grant, Alfred Hampton, John Henderson, Andrew H Jack, David Kirkcaldy, Duncan H Law, Jas Mackie, Arch Miller, Alex Martin, Andrew Myles, M M, Jas Myles,

generations of the sacrifice made by those brave boys in the war. He asked them to remember that the building was sacred and consecrated to the memory of those who fell.

Mr W D Dixon on behalf of the directors said it was for some time a matter of consideration as to what the directors should do for the men considering how much the men had done for their country. Out of their total employees, there were some 120 who answered the roll call and of these some 33 whose names were on the tablet would never return. The directors thought that in building such an Institute it would be a meeting-place for the workers in their spare time, provide a means of social intercourse, and would enhance the good feeling which was

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the feature of the workers in the place, and that that good feeling would grow and remain with the workers and the masters, so that they would pull together, work together, and even, he might say, play together. He hoped that the workers would find a great pleasure in the Institute and not only pleasure but also find it a means of learning.

Mr Dixon then unlocked the door of the Institute, and unveiled the tablet, at the foot of which several wreaths were afterwards placed.

Mr James Hodge managing director of the company read the names, and at the close ex Pipe Major Welch Black Watch played the "Flowers of the Forest" and Drummer Pickering R A F, sounded the "Last Post." The devotional part of the proceedings were conducted by the Rev W L Levack.

Paper

The new plant added during the past year to the Muglenoss Paper Works (Messrs C Davidson and Sons Ltd) amounting in value to £48,252, consists chiefly of additions to the electric power plant and of some electric trucks for the moving about of paper and materials within the works. The electric power which is got from the Aberdeen Corporation is proving highly economical, and it is hoped to extend it still further throughout the works. The directors are considering a further extension in this direction of motor traction.

It was due to the electric power plant that the company managed to keep most of the light machinery for paper bag making printing etc running partially during the period of depression when the paper machines were shut down entirely for 2½ months.

The protests and suggestion in connection with the new Spanish tariff were handed to the Spanish Government on September 12th. It is understood that they amount to between 500 and 600.

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American News-Print.

The monthly bulletin of the News Print Service Bureau New York, states that the 44 reporting companies produced 149,714 tons and shipped 147,631 tons during August. Production exceeded shipments by 2,083 tons. Production figures include 1,486 tons of hanging of which 789 tons was produced in Canada. The average daily production of news print paper by the mill's reporting for August amounted to 718 per cent of the average daily output during the three months of greatest production in 1920 allowing for new machines recently started. Production during August was 11,319 tons or 8 per cent and shipments 7,519 tons or 5 per cent, more than in July.

Production by the reporting United States mills during the first eight months of 1921 was 204,420 tons or 24.2 per cent less than in the first eight months of 1920 and production by Canadian mills decreased 78,781 tons or 13.3 per cent during the same period making a total decrease of 283,201 tons or 19.7 per cent by the 44 reporting companies.

Total stocks at all reporting mills on August 31st amounted to 39,673 tons or 1,813 tons more than on July 31st, and were equivalent to about five days maximum production. Of the total stock on hand at the end of August, 25 per cent was at British Columbia mills that depend upon water shipments.

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Imports of Raw Materials.

Description	SAITAMBA		JAN SEPT		SEPTEMBER		JAN SAIT	
	1920	1921	1920	1921	1920	1921	1920	1921
	Tons	Tons	Tons	Tons	£	£	£	£
Chemical Wood Pulp	45,746	16,947	420,497	160,662	1,962,637	569,100	15,557,603	6,464,772
Mechanical Wood Pulp	44,620	46,673	416,199	239,230	707,662	55,235	6,313,793	3,046,540
Esparto	6,653	9,099	130,854	59,031	135,014	77,063	2,599,383	834,719
Rags	622	461	4,531	6,605	49,917	21,511	302,975	194,141
Other Materials	126	219	5,253	875	10,811	5,262	102,932	25,122
Totals	102,271	74,759	951,334	460,423	2,906,047	1,226,174	24,874,566	10,565,336

Wood Pulp—Sources of Supply.

Description	SEPTEMBER		JAN - SEPT		SEPTEMBER		JAN SEPT	
	1920	1921	1920	1921	1920	1921	1920	1921
	Tons	Tons	Tons	Tons	£	£	£	£
CHEMICAL—								
Bleached, Dry	1,872	1,454	21,945	10,697	108,785	44,299	1,021,675	556,890
Unbleached, Dry	39,694	15,533	389,032	146,915	1,729,668	510,801	14,278,757	5,884,694
Wet	4,180	—	9,520	1,070	124,784	—	254,071	23,157
MECHANICAL—								
Dry	1,731	664	25,550	3,076	47,892	1,022	724,253	59,835
Wet	46,695	45,809	390,649	230,154	710,770	546,216	5,589,540	2,995,745
Totals	94,572	63,660	636,696	390,912	2,730,299	1,122,336	21,669,596	9,511,352

Bleached Chemical—Dry

From—	Tons	Tons	Tons	Tons	£	£	£	£
Finland	1	56	1	107	50	1,100	50	3,155
Sweden	531	961	3,450	2,151	36,657	31,807	163,804	90,417
Norway	1,335	284	2,799	7251	71,675	11,311	565,001	414,566
Germany	—	4	505	144	—	173	2,752	10,759
Other countries	5	149	5,190	1,014	403	3,906	270,268	37,992

Unbleached Chemical—Dry

From—	Tons	Tons	Tons	Tons	£	£	£	£
Finland	3,152	918	34,067	4,482	141,028	12,730	1,315,024	127,500
Sweden	22,966	11,238	243,284	103,193	686,245	419,701	8,603,193	4,114,399
Norway	8,356	1,175	75,687	27,591	325,301	37,166	2,592,084	1,218,237
Germany	1,356	78	5,556	4,682	75,020	1,212	276,848	179,708
Other countries	3,832	2,124	30,438	8,967	201,474	49,992	1,464,608	244,850

Mechanical—Wet

From—	Tons	Tons	Tons	Tons	£	£	£	£
Sweden	8,566	4,900	69,380	10,038	149,038	42,657	1,134,904	108,731
Norway	22,810	15,463	246,058	135,768	275,804	128,399	3,021,484	1,529,233
Canada	9,632	21,116	56,825	79,676	185,233	321,557	1,114,676	1,198,440
Other countries	5,897	4,330	13,386	10,672	106,695	53,603	327,476	159,341

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Description	SEPTEMBER		JANUARY		SEPTEMBER		JANUARY	
	1920	1921	1920	1921	1920	1921	1920	1921
	Cwts	Cwts	Cwts	Cwts	£	£	£	£
Printings and Writings	309,071	209,701	254,716	193,376	913,829	330,065	6,642,525	1,605,398
Packings and Wrappings	306,383	160,033	371,542	94,182	1,049,427	266,669	9,690,384	2,174,400
Coated Papers	11,485	4,606	107,535	34,968	62,900	25,393	661,362	219,554
Stationery	4,567	2,748	23,342	24,845	33,374	14,422	170,445	138,117
Mill, Leather & Cardboard	177,320	41,626	139,470	362,055	403,235	66,853	2,581,020	730,944
Strawboard	173,192	144,743	2,875,274	104,310	165,184	74,458	2,685,659	758,954
Other Sorts	28,705	27,258	292,833	189,342	178,333	111,675	1,543,683	1,075,827
Totals	1,010,723	590,755	1,060,512	1,536,078	2,806,282	489,535	24,015,078	8,703,194

Printings Not Coated and Writings in Large Sheets

From—	Cwts	Cwts	Cwts	Cwts	£	£	£	£
Sweden	85,149	59,516	407,044	42,002	25,642	93,509	903,899	751,864
Norway	59,710	8,624	505,776	165,061	192,641	12,517	1,252,765	328,137
Germany	30,460	8,912	114,965	49,457	86,654	11,197	328,166	105,996
Belgium	2,097	7,172	13,977	59,678	9,682	14,541	60,638	133,676
United States	1,942	1,511	56,446	6,575	10,540	4,675	188,635	28,193
Canada	16,202	—	146,328	5,203	50,718	—	310,476	15,671
Newfoundland	40,580	25,320	669,885	4,547	129,275	15,135	2,101,803	800,028
Other Countries	72,011	98,646	630,295	768,430	180,617	14,391	1,499,105	1,411,433

Packings and Wrappings, including Tissue Paper

From—	Cwts	Cwts	Cwts	Cwts	£	£	£	£
Finland	26,061	19,195	366,501	124,115	75,051	27,520	443,243	239,554
Sweden	150,817	75,753	1,653,019	376,153	497,251	124,603	4,609,390	796,995
Norway	72,078	21,107	804,421	196,169	250,052	32,665	2,352,318	366,204
Germany	20,908	16,934	172,406	108,595	71,024	24,762	542,886	253,615
Belgium	9,143	6,528	77,215	56,254	4,821	17,740	323,561	198,504
Canada	9,763	1,530	103,033	12,393	33,695	2,336	267,372	28,144
Other Countries	17,613	18,986	194,945	104,503	79,935	36,835	751,524	291,384

Coated Papers

From—	Cwts	Cwts	Cwts	Cwts	£	£	£	£
Germany	5,785	311	27,263	7,162	23,232	2,871	128,152	32,642
Belgium	3,139	1,409	37,303	10,439	19,673	6,188	236,800	54,897
France	341	774	11,345	3,944	6,001	5,142	99,211	32,706
United States	565	330	6,494	4,674	6,284	4,507	87,531	53,969
Other Countries	1,055	1,776	25,125	8,349	7,746	6,685	109,668	45,340

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Description	SEPTEMBER		JAN SEPT		SEPTEMBER		JAN-SEPT	
	1920	1921	1920	1921	1920	1921	1920	1921
	Cwts	Cwts	Cwts	Cwts	£	£	£	£
Printings	111 811	77,913	679,841	565 325	516,734	199,321	2 822 463	2,178 837
Writings	24 835	14 534	161,193	101 514	162,189	64 402	956 379	634 401
Packings and Wrappings	20 447	18,818	279 498	95 509	78,566	21 511	603 428	250,733
Tissues	1,016	785	9 625	8 314	14 505	10 451	120 546	127 664
Coated Papers, Hangings	9 589	1,511	111 794	32 541	62,945	9 999	626,992	266,883
Other sorts	3 023	2 194	25 833	15 395	39 375	20 710	305 208	228 440
Roofing Paper	26	-	2 175	26	136	-	5 372	124
Envelopes	5,117	2 361	40 289	19 124	41 029	16 769	286 736	193 122
Other Stationery	14 351	9 516	116 221	100 173	191 613	124,126	1 415 948	504 064
Paper Bags	2,254	623	23 474	11 115	10 783	2 920	95 055	62,844
Boxes and Cartons	2 051	1 158	17 775	14 562	15 650	7 476	126 195	105,158
Mill, Straw & Cardboard	8 152	3 565	60 515	62 683	37 325	11 941	231,417	205 443
Playing Cards	236	75	1 300	757	5 995	1 825	29 697	15 395
Other Manufactures	9 566	1 991	60 712	36 264	85 651	33 296	515 613	348 336
Totals	212 460	137 260	1 590 251	1 069 410	1 260 755	521 762	1 144 254	6 124 444

Printings, Not Coated

To—	Cwts	Cwts	Cwts	Cwts	£	£	£	£
France	5 549	1 062	62 553	11 917	19 274	3 596	257 754	29 165
United States	103	191	5 050	587	7 615	276	56 459	54 246
Other Foreign Countries	21 552	26 064	194 955	114 592	119 225	161 344	675 149	450,642
B South Africa	6 801	6 750	17 411	57 755	33,490	20 51	205 105	233 192
B India	35 664	6 653	190 666	71 165	168 089	19 890	738 131	302 676
Straits Settlements	1 759	1 165	9,741	5 245	7 524	2 764	40 407	17 110
Ceylon	2 126	2 304	15 272	12 257	12 697	6 390	64 100	45,258
Australia	25 977	25 015	56 305	219 156	100 853	59 750	317 963	765 703
New Zealand	4 622	5 507	24 054	37 977	22 498	13 766	95 376	135 535
Canada	61	26	1 180	1 561	409	175	7 074	10 210
Other British Possessions	5 917	2 756	42 600	26 461	25 066	9 625	161 017	111 895

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To—	Cwts	Cwts	Cwts	Cwts	£	£	£	£
France	2 511	281	20,263	1 593	13,756	616	101,969	8,472
United States	107	32	873	623	1,244	395	93 6	8,225
Other Foreign Countries	3,104	2,504	29 012	18,462	27 738	12 905	207,120	132,688
B South Africa	705	1 429	5 614	6 588	5 449	5 580	37,850	41,826
B India	7 395	5,163	47,592	25 671	46 475	19 828	260 048	149,700
Straits Settlements	510	62	3 401	2 222	4 514	569	29 843	18,584
Ceylon	456	271	3 002	1,113	2,750	170	17 876	7,749
Australia	6,199	3,406	31,675	26,210	35 974	13,560	171,360	145,574
New Zealand	1,985	887	9,315	11,180	12,108	3,735	54,435	61,469
Canada	24	50	435	944	359	261	3,507	7 141
Other British Possessions	1 636	893	9,511	6,908	11 786	6,583	62 995	52,773

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SAMPLES AND QUOTATIONS ON APPLICATION.

The Australian Market.

Imports

The imports into Australia of paper, printed matter etc., during June last were as follows, the values for the corresponding month of last year being given in parenthesis —

Cardboard and paper boards, £29,459 (£21,209), wrapping paper of all colours, £31,953 (£55,571), writing and typewriting paper, £37,037 (£48,846), other paper £56,769 (£53,126), directories £51,510 (£73,166), and all other, £51,925 (£52,165)

The figures for the past two years ending June were as follows

Paper—	1919-20	1920-21
Cardboard and boards	£157,436	£389,265
Printing	1,442,403	3,876,344
Wrapping	299,102	668,007
Writing and typewriting	135,497	995,109
Other paper	535,699	1,126,400
Books, printed—		
Directories, etc	773,976	1,032,012
All other	532,433	847,760
Totals	4,154,626	8,056,147

Wood pulp imports amounted in June 1920 to £25,204 and in June 1921 to £7,675. For the year to June 30 (1920) they amounted to £57,253 and for the corresponding period ending June 1921 £220,676

Exports

Paper exported during June 1920 amounted to £15,030 and in June this year to £7,266. For the twelve months ended June 1920 the exports of paper reached £83,147 and for the fiscal year ended June, 1921, £33,101. Stationery exported for the month of June 1920 reached £20,062 and for the corresponding month of this year £23,825. For the twelve months period (1919-20) the exports amounted to £160,970 and for 1920-21 to £226,168

Reafforestation In Britain.

Douglas Fir and Sitka Spruce Again.

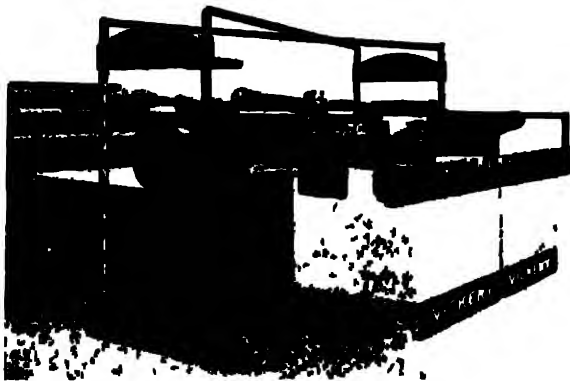
Another project is on foot with a view to re-establishing forests in this country. Officials of the Dominion Government Forestry Service in British Columbia are at work on a scheme to assist the tree planting policy of Great Britain by the collection and shipment of seeds of Douglas fir and Sitka spruce. The scheme has been under discussion for a long time and exhaustive tests have been made. It is stated that of the varieties tried these two trees have been found the most suitable for the purpose. The climate of the coast region of British Columbia is similar in many respects to that of the British Isles, though the rainfall is greater and these trees which are very prolific, are expected to be as successful in England and Scotland, says the Vancouver correspondent of *The Times* (Trade Supplement).

The cones from which the seeds will be taken are being collected the Douglas fir in the Fraser Valley district not far from Vancouver and the Sitka spruce in the Queen Charlotte Islands of the north.

It is understood that very successful tests of the growth of Douglas fir have been carried out in England.

The experiment will be watched with great interest in other countries of Europe for both Norway and Sweden have sent experts here to study the culture of native trees of British Columbia and quite large samples have been sent to Europe for trial. Scandinavia has been particularly interested in the possibility of cultivating pulp wood trees from seeds obtained from the Pacific coast.

SEVEN paper factories in Latvia have an estimated monthly production of upwards of 64,000 lb of paper and cardboard.



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Moisture Content.

Data Concerning Paper During Formation

Some interesting data concerning the moisture contents of paper during formation was given in the *Pulp and Paper Magazine* in response to a request for information.

In the manufacturing of paper it is often desirable to know the percentage of fibre that is carried as the web of paper is forming on the Fourdrinier table at different points during the travel of the wire, and the percentage of dryness of the formed web of paper as it passes over the machine. The proper amount of water from the flow box to the first suction box must be maintained for, as the stock leaves the slice, the character of the sheet, or web of paper, depends on the moisture or water carried as this affects the felting of the fibres. An important factor is the diameter of the table rolls and the distances between them. A properly formed sheet will press without crushing and when reaching the dryer unit of the machine, will permit the moisture contents to be easily evaporated, without cockling or the making of broke.

To determine the proper percentage of fibres at the Fourdrinier table, a careful survey was made of the moisture content on a news print machine manufacturing standard "news," the composition of the paper being 23 per cent sulphite, 75 per cent groundwood and 2 per cent loading, and operating at a speed of 634 feet per minute and giving an actual daily production of 57½ tons of news print. The wire was 158 inches wide by 70 feet long with a pitch of 27 inches. The Fourdrinier table was constructed in the following manner: Breast roll 22 inches diameter, 160 inches face; table roll 5½ inches diameter by 160 inches face, spaced 6½ inches apart for the first ten rolls, and the balance space 6½ inches on centres, seven suction boxes, arranged two in front of the dandy roll and five after the dandy roll, the dandy roll was 12 inches diameter by 160 inches face and wound with 70 mesh wire, the bottom

couch roll was 28 inches diameter by 162 inches face, and the top couch roll was 26 inches diameter by 166 inches face.

The press part of the machine consisted of three presses, paper travelling forward through first and second presses and reversing at the third press. Each press was arranged for a felt 52 feet 6 inches long. The bottom press rolls were 24 inches diameter by 158 inches face ¼ inch rubber covered and crowned .035 inch. The top rolls for first and second presses were of wood, 26 inches diameter by 162 inches face, and crowned .018 inch. The top roll for third press was 24 inches diameter by 162 inches face ½ inch gunmetal jacket, and ground perfectly straight.

The paper made was pressed perfectly and dried evenly and showed perfect tests in every way, therefore, the factors involved in the formation of the sheet demonstrated perfect arrangement of the felting of fibres at Fourdrinier table. To determine actual conditions, a test for percentage of fibre and water was taken at different points along the machine from flow box to dryer unit, the test of moisture from slices to first suction box was somewhat uncertain, but a fair working knowledge was obtained of the proper moisture content to be maintained for proper formation. The results arrived at are as follows:

Stock at flow box, 1 per cent fibre 99 per cent water

Stock leaving slice, 2 per cent fibre, 98 per cent water

At fifth table roll from slice, 4½ per cent fibre 95½ per cent water

At tenth table roll 5½ per cent fibre 94½ per cent water

At fifteenth table roll, 6½ per cent fibre 93½ per cent water

Before reaching first suction box, 7 per cent fibre 93 per cent water

At the dandy roll, 14 per cent fibre 86 per cent water

After leaving last suction box, 19½ per cent fibre 80½ per cent water

After leaving nip of couch rolls, 28½ per cent fibre 71½ per cent water

After leaving first press, 32½ per cent fibre 67½ per cent water

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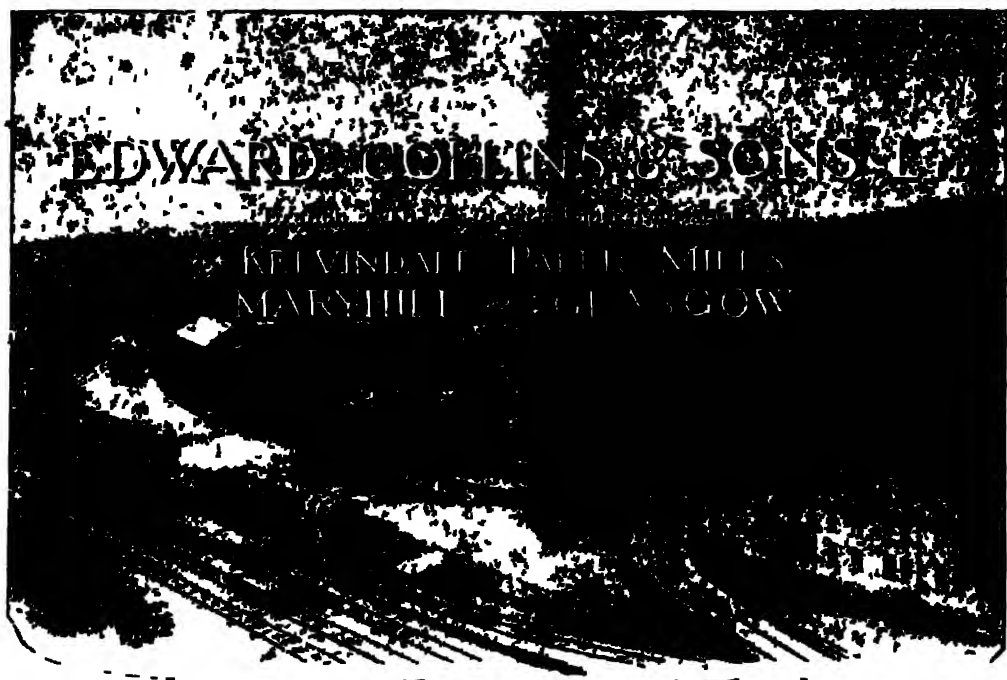
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After leaving second press, 36½ per cent fibre 63½ per cent water

After leaving third press and before reaching dryers, 39½ per cent fibre 60½ per cent water

The dryer unit consisted of one 24 inches diameter receiving dryer, forty 48 inches diameter paper dryers, and four 48 inches diameter felt dryers. The dryer unit was equipped with two bottom and two top dryer felts. The last top dryer and the last bottom dryer were used as cooling dryers.

The finished paper was of good character even formation, even thickness, calendered perfectly, and wound into perfect shipping rolls.

Mr John W Brassington made the following contribution.

The amount of water used with the prepared pulp from the beating engines as the mixture runs on to the wire varies according to the character of the stock and of the paper to be made, but I have found this variation to fall within certain limits for the same class of paper manufactured, provided the machine man is skilled in his work and uses good judgment in regulating it.

The following results were obtained while manufacturing an ordinary machine finished printing paper, the fibrous stock for which consisted of sulphite pulp, ground wood, and a proportion of esparto pulp, about 15 per cent. The mineral matter in the paper consisted of china clay. The wire on the machine measured 66 inches wide by 30 feet long and was capable of yielding a web of paper measuring 58 inches wide at the reel. The weight of paper made during the tests was 21 lb double crown (20 inches by 30 inches) 80 sheets to the ream equivalent to about 30 lbs double demy.

The amount of dry paper stock in the beating engines varies from 3½ to 4½ pounds per cubic foot, in accordance with the kind of paper to be made and the amount of mineral loading used. It reaches its maximum in the production of papers such as imitation art which are heavily loaded with clay.

In this particular case the solid contents (i.e. fibre and mineral matter) in the stuff chest gave on the average of several determinations 1808 pounds per foot, and when

these solid contents were dried at 105 deg Centigrade they gave 128 per cent of mineral matter. The amount of water and total solids pumped into the regulation box was therefore, nearly 1,706 cubic feet equal to 6,885 imperial gallons, per ton of paper stock.

The paper stock, as it leaves the regulating box, is mixed with the 'black' or 'white' water from the machine prior to its passage over the sand traps and through the screens, any deficiency in the volume required being made up from the mill supply.

It was found that the mixture flowing on to the wire contained 0.575 pounds of total solids per cubic foot containing 21.5 per cent of mineral matter, whilst that passing through the wire cloth into 'save all' below contained 0.227 pounds of total solids per cubic foot with 50.2 per cent mineral water. The amount of dilution that took place in the mixing box was therefore, nearly 3½ times the volume of the paper stock from the stuff chest, or to nearly 22,000 imperial gallons reckoned on one ton (2,000 lbs) of dry paper stock.

It was difficult to ascertain the volume of this 'save all' water accurately but the writer is of the opinion that it represents about one half of the total on the machine. When it is mixed with the wash water from the spray pipe etc., it is pumped to the separating vessel, there to be treated as above described.

The overflow from this separating vessel, which ran to waste, contained 0.004 of a pound of solids total, per cubic foot of which 96.3 per cent was mineral water. As this mineral matter consisted almost entirely of china clay, when determining it by ignition due allowance was made for the combined water in the clay. The volume passing away or lost was small, as the bulk of it was used for filling and emptying the beating engines. Obviously the loss of fibre from this source was negligible.

It would appear therefore that the amount of water run on to the wire cloth of the paper machine per ton of paper was in the neighbourhood of 7,000 imperial gallons and that the bulk of the fibre and clay passing through the wire as well as that gathered from other sources was returned to the mixing box of

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the machine. In point of fact this fibre and clay represents a circulating quantity and when once its flow is adjusted, has not any material influence on the weight of paper, this being regulated by the stuff value on the regulation box.

What took place after the web of paper was formed on the wire was ascertained to be as follows —

1 The wet web of paper after passing the suction boxes of which there were two, and before passing under the couch roll, contained 89.8 per cent of water.

2 The water left in the web after passing the couch rolls and before entering the first press rolls was 79.7 per cent.

3 The web finally contained 63.6 per cent water after passing through the first press rolls and before going on to the drying cylinders. This figure represents the amount of water to be evaporated by the drying cylinders and is equivalent to 1.76 tons per ton of paper made.

There were no second press rolls in operation on this machine while these tests were being made as these rolls were undergoing repairs, but as the machine was narrow a uniform and good pressure could be obtained with those in action as shown by the low per cent age of water left in the web after passing them.

The writer has found that in many cases where thin sheets of paper are being made such as the above, there is practically no water removed by the second press rolls that their function is simply to smooth and glaze the under surface of the web of wet paper. A long series of observations extending over many years has established this and also the fact that seldom less than 63 per cent of water is left in the wet web after passing the second pair of press rolls.

It is doubtful, in the writer's opinion, what advantage is to be gained in drying the paper by using a third set of press rolls such as exist on many modern machines. In cases of fast running adding to the number of presses, a more gradual pressure can be applied with less injury to the web of paper and to the felts but the final moisture in the paper left for the drying cylinders to evaporate ranges as a rule from 62 to 68 per cent.

The foregoing may be summarised as follows —

Solids, i.e. Mineral and Fibre

	Water	
Mixture going on to wire	0.92	99.08
Before entering couch roll	1.70	89.80
After passing couch roll	2.03	79.70
After passing first press rolls	3.62	63.80

In a high speed news machine there is about one-third of one per cent of fibre and solid matter in the stuff as it flows on to the machine at the flow box. Nearly 50 per cent of this moisture is lost on the first half a dozen table rolls, and the first save all box is designed to take care of this great quantity of water. This leaves about six tenths of one per cent of solid matter after the first half dozen table rolls.

By the time the paper gets to the first suction box the stuff contains practically about 5 per cent of solid matter, and after passing over the suction boxes contains approximately 10 per cent of solid matter, which is before entering the couch roll. Before it enters the first press roll it contains 20 per cent, before entering the second press roll it contains from 25 to 30 per cent, the third press and the fourth press, if used, at the very best service will hardly reduce the moisture in the paper below 60 per cent. We generally figure on the paper leaving the last press as containing 36 to 37 per cent moisture. Needless to say, care should be taken that paper as it leaves the dry end should contain about 10 per cent moisture and 90 per cent fibre.

Mr. Brassington adds: You will realise that the question is largely theoretical because the quantity of water removed at the different points of the paper machine must vary according to the handling of the machine, heavier weights on the first presses will make quite a difference in the relative proportion of moisture at the press points while the number of table rolls governs the moisture of the paper when it gets to the first suction box but the equation also contains a symbol expressing the speed of the paper. For instance I have known of the table rolls being removed on a high speed machine in the summer time so as to allow the water to get down closer to the suction box.

There is no question in my mind that careful experiments along this direction would lead to a very decided indication that a considerable elevation of the flow box and a sluice way to a level wire, so designed that the stock would strike the wire at a slightly greater speed than the wire is running, would give a much better formed sheet than the present method of elevating the breast roll.

The shake in such a design would be replaced by interference baffles causing a commingling of the fibre after it flows over the apron.

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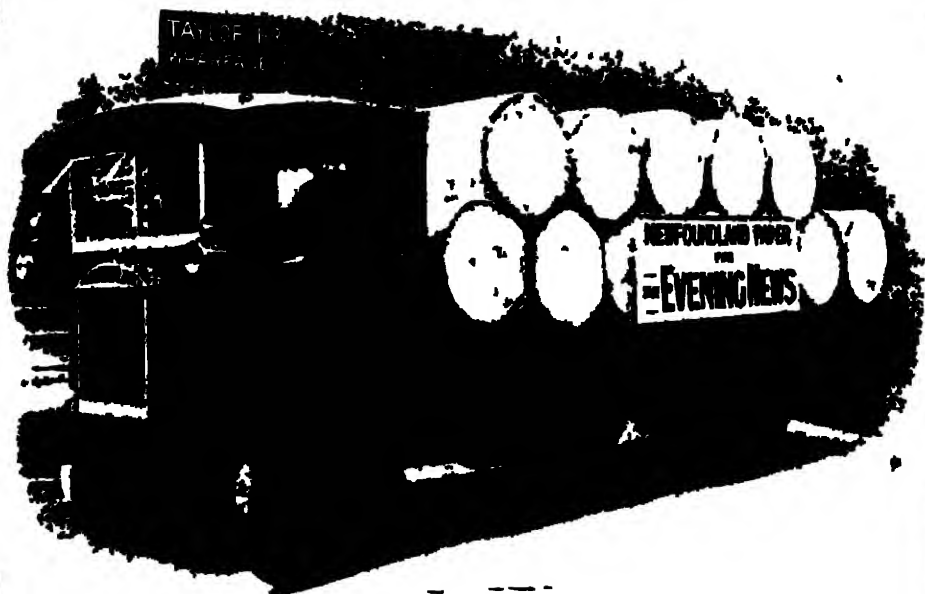
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Trade Notes.

EDITORIAL NOTICE—The Editor will be pleased to receive items of News, Personal and General, Company Reports or Newspaper Cuttings of Interest to the Paper Trade

CHARLES MORGAN AND Co, LTD The directors have decided not to pay an interim on the ordinary

UNITED INDIGO AND CHEMICAL CO Profit including £11,716 brought forward from last year's account, less British excess profits duty and corporation profits tax, £34662 Further dividend 7½ per cent carry forward £6,975

PRESIDING at the recent meeting of Messrs C Davidson and Sons Ltd Mugemore Paper Works Aberdeen, Mr C W Davidson the chairman, was glad to say that inquiries for goods for export were becoming more numerous. This fact seemed to indicate some revival in the export trade, which was so vital to the paper industry as to all other industries of the country

UNFOUNDED RUMOUR A report has been freely circulated that a well known Lancashire mill which changed hands during the last few years had been sold the purchasers being alleged to be interested in the co operative movement. The mill in question has not been sold in fact negotiations have not even been carried on

LAMSON PARAGON SUPPLY CO LTD Although the directors of the Lamson Paragon Supply Co are of opinion that the net profits for the half year ended July 31st last would permit the payment of the usual interim dividend on the ordinary shares they have decided, having regard to the uncertainty of the outlook for trade generally to postpone the declaration of the ordinary dividend until the close of the financial year. The interim dividends on the 5½ per cent preference and 10 per cent preference shares have been paid

BETTER TIMES COMING—The Right Hon G W Balfour, chairman of the Castner Kellner Alkali Co, Runcorn, speaking on Friday night at a meeting called to make presentations to members of the firm who served in the war, said he was optimistic in regard to the future of industry. He was of opinion that the present clouds would pass away, and that we should enter into a period of prosperity. Industry had had difficulties to contend against which even the very wisest and most far sighted hardly saw three years ago. We had won the war, now our object was to win the peace. That peace could only be achieved by the exercise of the spirit of co operation by which we won the war

THE late Colonel Thomas Mitchell C B V D, of Hove, Hon Colonel 5th East Lancashire Regiment, a director of Messrs Mitchells, Ashworth, Stansfield and Co, Ltd, felt and tapestry manufacturers, dyers and printers of Waterfoot, Manchester, winner

of the championship medal at the All England Athletic Meeting at Manchester in 1865, and the last survivor of the three brothers of his family, famous in athletics, who died on June 2nd last, aged 81 years, left estate of the gross value of £48,292 with net personality £41,433

IN a circular pointing out that the recent reduction in printers' wages lowers the manufacturing costs on the average by 2½ per cent, the London Master Printers Association adds that all chargeable materials such as paper ink leather strawboards etc must be dealt with separately according to their cost

A film illustrating the entire process of manufacture of Croxley quality papers was shown at 65 Old Bailey, London (John Dickinson and Co Ltd), on Tuesday and Thursday this week, and will be repeated on Tuesday and Thursday next. There is also on view an exhibition of the materials used in the manufacture of the papers a mill expert demonstrating their application

MESSRS C DOVEY FRANKS AND Co's offices owing to re numbering are 26 Wardrobe Chambers, Queen Victoria Street E C 4. The firm are well known as agents for the Daily Telegraph Paper Mills Dartford, whose manufactures have achieved a good reputation on the market. The samples issued of tinted banks show a wide range of excellent quality

MR I V OLSEN of Lambert House, 10-12 Ludgate Hill London, E C 4, is well known as the agent for the Torps Brugs Aktieselskab Fredrikstad Norway. We refer to Mr Olsen's association with Torps Brugs Aktieselskab which has existed for a period of fourteen years. In the statement in our issue of September 16th that Messrs Witting Bros Ltd of 49 Cannon Street London E C were agents for the North may give an erroneous impression

MESSRS H SILANDER AND Co, 59, St Mary Axe London who are sole agents for the United Kingdom for Messrs Haarlan Paperitehdas Tampere Finland are pushing the sale of manilla tissue and toilet paper unglazed coloured tissues and waxing tissue. This is a comparatively new mill, and judging from the samples shown us by Mr J P Crane who manages the paper department of Messrs Silander there is a promising feature for these lines in this country where they have already met with favour on account of their good value

ON Saturday afternoon 1st inst, a bowling match took place at Naylor's Green, Greenmount, near Bury between the employees of the General Engineering Co (Radcliffe) Ltd, Station Works Radcliffe and Messrs Hargreaves and Jennings Railway Foundry Tottington near Bury. Playing 15 a side, the game ended in a victory for the last named by 158 to 131. At the conclusion of play the party adjourned to the hotel where, after doing full justice to a substantial tea, a smoking concert was held, the company breaking up about 10 p.m. after a thoroughly enjoyable gathering

Personal.

SIR JOHN BADDELEY (Lord Mayor Elect), Sir Evan Spicer and Sir I Vansittart Bowater were among those who attended the memorial service on Thursday to the late Sir Joseph Savoy, a former Lord Mayor of London.

SIR I VANSITTART BOWATER attended the banquet at the Mansion House on Thursday to the Worshipful Company of Fruiterers, who on that day made their customary gift of fruit to the Lord Mayor.

SIR WM E BERRY presided at the twenty-seventh annual dinner in aid of the funds of the Readers Pension Committee on Saturday at the Holborn Restaurant.

SUPPORTING him were Lady Berry, Sir I rank and Lady Newnes, Sir Arthur Spurgeon, Sir Wm A Waterlow, Mr and Mis J Gomer Berry, Mr I Fifoot and many other consumers of paper.

MR W D DAVIDSON has been re-elected to the directorate of Messrs C Davidson and Sons Ltd.

CAPTAIN W L NUTTALL has generously presented a series of Globe Wernicke bookcases to the Papermakers Association. They are intended to accommodate the Lewis Evans library and other useful volumes of which Mr A W Foster is getting together a goodly collection.

MR S J SANDIE has been appointed the chairman of the committee nominated by the Lord Mayor elect and the Sheriffs to organise the civic pageant and the Guildhall banquet on November 9th.

MR J K. BOOTH who for some years has represented the old established firm of Messrs Tullis Russell and Co Ltd Markinch N.B., in the North of England has now come to reside in the Manchester district and hopes shortly to secure a suitable office in the city.

DESPITE having reached his 75th year, Mr C D Oyley Mears takes a keen personal interest in business affairs although unfortunately, the state of his health does not admit of personal contact with his many friends in the trade.

MR REX WEDDALL, of Messrs Rex Weddall and Co, the well known forwarding agents, 42, Deansgate, Manchester, is at present on a business visit to Scandinavia and is returning home via Germany, Belgium, Holland and France.

MR W DENHAM FULTON, managing director of the Premier Paper Mills, Ltd, Klip

River, Transvaal, is at present on a business visit to this country.

It is interesting to learn that the Premier Mills started operation in the manufacture of wrapping paper at the beginning of April, this year.

MR FULTON speaks very confidently of the present position and future prospects of the enterprise.

MR DAVID I TAYLOR, the well known general manager of Messrs H D Pochin and Co, Ltd, Worsley street Manchester, sails from Liverpool on the ss 'Cedric' on Saturday for New York on a business trip and will spend five or six weeks in America and Canada where his firm have extensive business connections.

MR W H PALMER (Palmer Flvgt and Co) following his visit to Germany, sailed for the United States on Saturday on the liner Bevingaria.

THE American Writing Paper Co has made elaborate arrangements for the distribution of its fine papers through Eagle A service houses located in every city in the United States and in some of the principal centres of the world. The announcement is made on a deckle edge broadsheet sent out in an envelope of the same quality paper. Included among the 'service' houses is that of the Lindenmeyr and Johnson Paper Co, Upper Thames street.

THE death took place at Bedford on Sunday of Mr Harry Riley, formerly secretary and cashier to the Bury Papermaking Co Ltd.

PULP and paper men in Manchester were naturally much interested in the opening of the magnificent new Royal Exchange by the King on Saturday.

BATTERSEA POLYTECHNIC

LONDON, S W 11

In connection with the PAPERMAKING CLASSES a film showing

"The Manufacture of Newspaper in Canada from Standing Timber to Finished Sheet"

will be displayed under the auspices of the Technical Section of the Papermakers' Association, on

Monday, October 24th, at 7.15 p.m.

The film has been kindly lent by Messrs Charles Walsley & Co, of Bury.

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The equipment provided for the Paper Classes held at the Polytechnic will also be on view.

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FRIDAY OCTOBER 14 1921

Papermaking Materials

LAST month's imports of papermaking ma-
terials, amounting to 74,759 tons compare
unfavourably with those of the previous
month when 110,387 tons were received. A
decrease is shown of 27,514 tons or 26.9 per
cent as compared with September of last
year. The falling off in receipts was chiefly
in chemical wood pulp, amounting to 28,759
tons, the decrease in mechanical wood pulp
amounting to 1,953 tons. It may be pointed
out that of the total receipts of moist mechani-
cal last month, amounting to 45,809 tons,
21,116 tons were received from Canada. The
arrivals of esparto last month show an increase
of 3,346 tons as compared with September of
last year, and rags show a small addition of

59 tons The total value of the imports of raw materials last month was £1,226,174, a decrease of £1,679,873 or 57.8 per cent as compared with the corresponding month of last year The total imports for the nine months ended September amounts to 466,423 tons of the value of £10,565,336, a decrease in quantity of 514,911 tons (52.4 per cent) and in value £14,309,250 (57.5 per cent) compared with January-September of last year

A Decline in Paper Imports

THE upward movement in the imports into the United Kingdom of paper and boards which marked the August returns, as compared with June and July, had a set back last month The total arrivals were 590,755 cwts, a decrease of 419,966 cwts (41.5 per cent) as compared with September of last year and a drop of 495,379 cwts (45.6 per cent) as compared with September, 1913 The total value of last month's imports was £1,189,535 a drop of no less than £1,916,747, or 68.3 per cent as compared with September of last year The comparison, however with September 1913, shows an increase in last month's total value of £246,428, or 35 per cent Last month as compared with September of last year, there was a drop of 99,370 cwts in the receipts of printings and writing paper The arrivals from Norway, Sweden, and Germany (particularly Norway) show a heavy decline, the only country that substantially increased its trade with the United Kingdom being Belgium Packings and wrappings received at British ports last month were 146,350 cwts under the quantity received in September of last year, the receipts from Sweden were about 50 per cent less, and those from Norway 70 per cent less The import of straw boards and other boards last month show a decrease of over 43 per cent as compared with September of last year The total imports of paper and boards for the nine months ended September last were 4,530,078 cwts, a decrease of 47.8 per cent as compared with the corresponding period of last year, and a decrease of 52.8 per cent as compared with January-September, 1913 The total value of the imports during the last nine months stands at £8,703,194, a decrease of 63.7 per cent as compared with the corresponding period of last year, and an increase of 52.5 per cent as compared with January-September of 1913

Increased Exports of British Paper

A NOTEWORTHY increase took place in the exports of British paper during September as compared with the three previous months

The returns show the following shipments — June, 104,557 cwts July, 94,616 cwts, August 84,957 cwts, and September, 137,260 cwts As compared with the exports during September, 1920, last month's figures show a decrease of 35.4 per cent and as compared with September, 1913, a decrease of 52.7 per cent The total value of the exports last month amounts to £524,782, a decrease of 56 per cent compared with September of last year, and an increase of 77.7 per cent as compared with September 1913 Of last month's exports, printings comprised 57 per cent of the total The quantity amounted to 77,913 cwts, of which 50,376 cwts went to British Possessions and 27,537 cwts to Foreign Countries As compared with the September of last year, very little change took place last month in the supply of printings to Australia and South Africa New Zealand however, improved her purchases, but quite a slump was experienced in exports to India, the quantity dropping from 35,864 cwts to 6,853 cwts The shipments of writings last month were 14,534 cwts, the bulk going to British Possessions namely 11,917 cwts, whilst 2,617 cwts went to Foreign Countries India is the principal market for British writings, but a shrinkage is shown in the supplies last month of 2,235 cwts as compared with September of last year The shipments to South Africa were 1,429 cwts as against 705 cwts a year ago, whilst the Australian demand dropped from 6,199 cwts to 3,406 cwts Taking the exports for the nine months ended September last, the total quantity amounts to 1,069,440 cwts as against 1,590,281 cwts for the corresponding period of last year, and 2,679,583 cwts in 1913, showing decreases of 520,841 cwts (32.7 per cent) and 1,610,143 cwts (60.1 per cent) respectively The total value of the exports for the nine months of this year amounts to £6,124,444, a decrease of £2,019,810 (24.8 per cent) compared with the corresponding period of last year, and an increase of £3,325,996 (118.8 per cent) contrasted with January-September, 1913

Europe and the New World Competition.

EUROPEAN papermakers are steadily meeting with competition from American mills, and when exchanges right themselves—if ever they do—the fight will be more severe than ever Evidence is constantly forthcoming of the progressive character of paper manufacture and disposal on the other side of the Atlantic, and unless European mills are brought to and maintained in a state of efficiency they are likely to suffer by such competition, not only in foreign markets, but at

home. A striking comparison for instance is made between the French and American paper mills by M. Jouanneau a papermaker of Vendome France who has just completed an extensive visit to Canada and the United States. The French visitor who is associated with his father in the paper manufacturing firm of Vassier Cason and Co. draws a great distinction between the French and the American mills. In France he points out they have no fast machines the fastest being 400ft. While his father's mill was making paper centuries ago the American concerns are comparatively new and are much larger. Again very few French mills boast of their machines. The contrast between the industry in the older country with that in the newer indicates the character of the fight which will be waged for the paper markets in the future. So far as the British paper industry is concerned there is nothing to fear so long as opportunities of development are seized upon and efficient methods adopted. At the moment there is little temptation to embark upon new schemes. Some however have already been set on foot, and in spite of the handicap which depression has placed upon the industry the future can be faced without apprehension, so long as the necessary precautions and enterprise are adopted. The problem set by the large concerns operating in the New World is one of cost and that is perhaps the most vulnerable point in British paper manufacture. With a big output overhead expenses are lowered and the ultimate cost of an article is cheapened. On quality our manufacturers have nothing to fear and it is for the workpeople to assist the employers in limiting the cost of production.

An Advertisement is always working



The Technical Section

To the Editor of the 'World's Paper Trade Review'

SIR—It rather appears that some misunderstandings have arisen owing to an apparent intention to discuss the relative importance of the chemist, the engineer, and the papermaker at the Edinburgh Conference of the Technical Section of the Papermakers' Association.

The introductory remarks of Principal Lurie, which were so much appreciated by everybody present, were intended to refer almost entirely to research work, and in research there is very great scope (almost in unworked field) for the chemist. But this pronouncement was not at all intended to have any bearing on the relative importance of the three papermaker, chemist and engineer in the working of the mill.

In order to remove any misapprehension which may have arisen from the somewhat abbreviated reports of the daily Press, it should be stated that it is the fundamental intention of the Technical Section of the Association to bring the chemist and the engineer, both of whom are essential into their proper relationship with the papermaker, who after all is the person on whom the ultimate responsibility for the quality of the paper rests, and it is for this very reason that we are so anxious that practical papermakers shall ally themselves with the Technical Section so that they may be brought into touch with their chemists and their engineers, and that the common knowledge of the technical experts should be pooled and rendered available for the assistance of the papermaker, thus enabling him to be in the best possible position to turn out the ideal product. Yours etc.

MIRIAM W. LOSTER

Secretary, Tech. Section

London, October 12th

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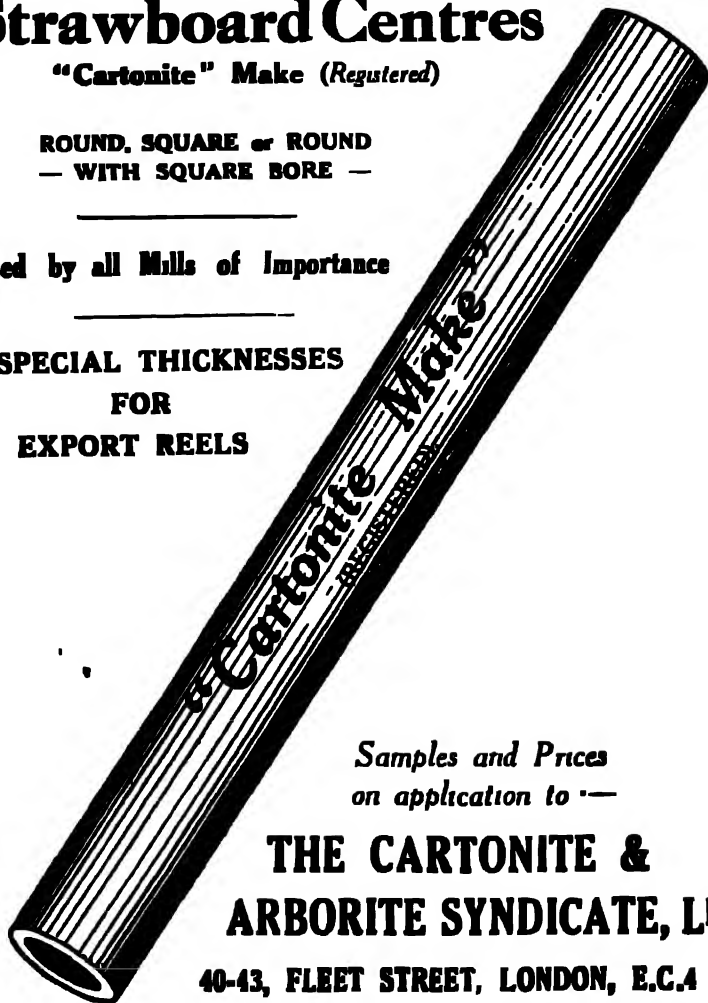
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Algerian Alfa.

Some Facts About a British Papermaking Material

Alfa is the Algerian name of a grass called in the British and American trade esparto, and designated in botany as *Stipa tenacissima*, or tenacious feathergrass. Besides the Arabic term halfa the natives of Algeria name it senug wenaghr, and sengh.

The alfa region in Algeria covers several million hectares occupying particularly the highland zone. The plant grows at an altitude of 1,000 to 4,000 feet but does not thrive where the average rainfall exceeds 23.62 inches. Weight and size of leaf vary with altitude the heaviest and largest growing on sandy alluvial plains, the medium on steppes and highlands and the lightest and smallest in mountainous regions.

According to its commercial uses alfa is classified as (1) *Spartium alfa* for manufacture of ropes, mats, etc. (2) that used for papermaking, (3) a variety for the basket trade.

Cellulose Percentage

Analysis of Spanish esparto and African alfa shows that each is susceptible of giving nearly 50 per cent of its weight in cellulose (48.25 per cent for the Spanish and 45.8 per cent for the African), whereas corn gives 45.9 per cent, oats 41.7 per cent, wheat 41 per cent, barley 37.9 per cent, maize 29 per cent, and wood shavings 30 to 40 per cent.

The yellow leaves of alfa or esparto are less rich in cellulose and the paper from them is less resistant, leaves that grow ripe are heavily charged with silica and oxide of iron, which render whitening more difficult.

Kraftin, used as loading in news print and lower grades of writing paper is also found in Algeria in large quantities.

Manufacture of Pulp in Algeria

The two difficulties which make the manufacture of paper pulp in Algeria seem impracticable until of late—excess of chalk and salt in local waters, and the high percentage of liquid required for preserving and transporting the finished and whitened pulp have

been overcome through the researches of a French engineer.

The result is a new type of pulp called 'demi demi', which can be pressed into minimum volume and transported dry. It can be kept indefinitely, and used as required by diluting, washing, finishing, and whitening the dry product. Two cubic metres (26.65 cubic yards) of demi demi pulp, weighing 1,000 kilos (2,204 pounds avoirdupois) represents the equivalent of from 10 to 12 cubic metres (13.37 to 15.69 cubic yards) of raw alfa weighing 2,000 kilos (4,408 pounds), thus effecting an economy in freight of 50 per cent in weight, or 500 to 600 per cent in volume.

French groups have organised for making pulp from alfa at a minimum cost of production, but as there is practically no coal in North Africa and hydro electric resources undeveloped, and as water sufficient for complete treatment is unobtainable in certain important alfa zones it is thought by many the Algerian annual output of alfa pulp will be less than the demand for several years and that prices will be fairly well maintained.

It is reported in the local press that a company in Algiers with a capital of 2,000,000 francs is going to build its first factory for paper pulp in the alfa region at Ain el Hadjar near Saida, on the railroad from Oran to Colomb Bechar.

United Kingdom Chief Consumer

Algerian exports of alfa in 1920 amounted to 53,982 metric tons valued at about 13,500,000 francs. This was but little more than half the quantity exported in 1910 and considerably less than half that of 1912, the year of greatest export when the quantity reached 117,632 tons and the average price was 75 francs per ton, or a total value of 8,800,000 francs. The year 1919 was the worst, exports falling off to 5,888 tons chiefly through the lack of railroad facilities from centres of production to seaports.

In general about 80 per cent of all alfa exports have been through the ports of Oran and Aizew about 10 per cent through Boua and the remainder from Algiers, Philippeville and Bougie.

The principal customer for Algerian alfa has been the United Kingdom, which absorbs from 90 to 95 per cent of the exports.

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Hard-Sized Paper.

Method of Production Defined

The Holzverkohlungs Industrie A G in Konstanz has been granted a German patent No 338 395 with the addition No 339 594 for a method of sizing paper. The additional patent contains the following statement and description of the process.

Further researches show that when sizing according to the directions given in the original patent one may also with advantage use such products as are obtained by the condensation of aldehydes preferably formaldehyde, with hydroxy naphthaline compounds or derivatives. Such compounds, alpha or beta naphthol, have been found to have the property of forming alkali soluble rosin on condensation with formaldehyde when heated in acid or alkaline solution, in a similar manner to phenole or creosole. A slightly acid solution is to be preferred and the resulting rosin is an extraordinarily good material for paper sizing.

Condensation products specially suitable for paper sizing may be prepared thus - Naphthol is dissolved in a sufficient quantity of an indifferent solvent such as acetone by heating, the solution is then acidified with about 1 per cent of concentrated sulphuric acid and formaldehyde added. By further warming the solvent is driven off and the resinous product is precipitated.

The actual process of sizing is carried out by dissolving the product as above obtained in an alkaline solution and adding this at a concentration of from 10 to 50 grms per litre to the stuff in the beater. The addition of weak acid or of a salt such as sulphate of alumina precipitates the resinous product on the fibre in a form which has been shown to possess in water repellent properties in a very high degree.

Experiments have shown that the addition of 2 per cent of a 35 to 40 per cent alkaline naphthol formaldehyde soap solution to the pulp is sufficient to produce full sizing when it requires at least 3½ per cent of a 60 to 70 per cent solution of the best French rosin size to give the same result - M A.

Paper Mills of Czecho Slovakia.

In the years immediately preceding the war the paper industry of Bohemia had been highly developed, and was forming a large part of the total output of Austria Hungary, writes Mr Donald L. Breed U S Trade Commissioner at Prague. Thus, in 1908 the lands which are now in the Czecho Slovak State produced 164,740 metric tons of paper, having a value of about 329,000,000 crowns. At the same time the total production of Austria Hungary was 361,910 metric tons with a value of about 724,000,000 crowns.

At present there are 58 paper mills in the country with a total annual capacity of 226,000 metric tons. The present value of that amount of paper is about 1,582,490,000 crowns. The tremendous rise in these figures as expressed in crowns is of course to be accounted for by the fall in the value of the crown.

The total annual consumption of domestic industries and trade is 154,420 metric tons. The remainder 71,580 metric tons, is available for export. German Austria now has 40 paper mills producing 153,000 metric tons yearly and Hungary one mill, with an annual capacity of 3,460 metric tons.

Most of the paper made in Czecho Slovakia is print paper, but other grades are manufactured. Last year 3,000 tons of parchment paper were made all of which was exported. There was also an output of 4,000 tons of cigarette paper 90 per cent of which was exported.

Paper in Japan.

Statistics covering the trade of Japan during the period January-June, 1921, revealed a considerable falling off in the case of paper and pulp. Exports of paper, which are valued at 9,212,000 yen represent a decrease of 19.5 per cent. Decreases on imports under the headings of pulp and paper were even greater. Thus pulp imports (3,594,000 yen) are down by 67.5 per cent and paper imports (4,692,000), by 49.4 per cent.

Telephone CITY 567

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OCTOBER 14, 1921.

The World and Its Review.

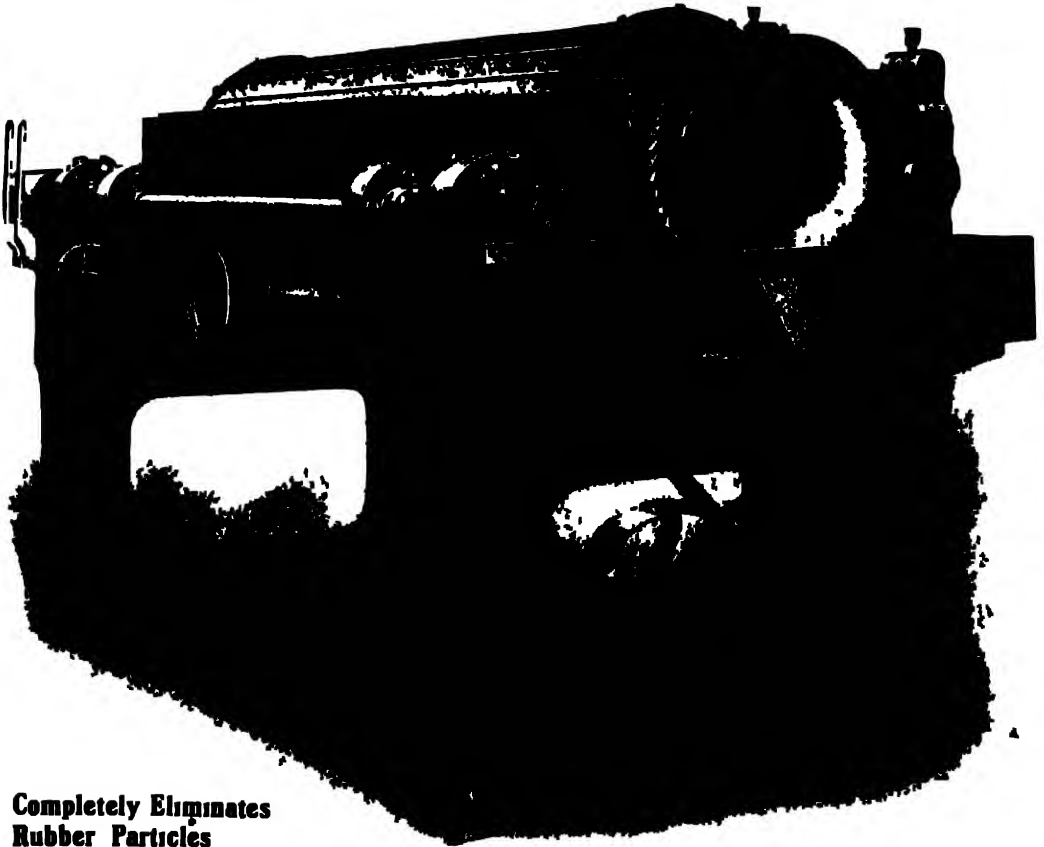
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Papermaking

In a letter to *The Times* on Monday, Mr. H. G. Spicer (Spicer Bros) adds a word against the discontinuance of the receipt and collection of Sunday posts in country parts. It is a distinct means of hindering the recovery of trade business over and above the fact of its great inconvenience, not only now but under normal conditions.

Mr. Spicer adds: "Where a factory particularly in a country district is to day struggling to keep going three days a week, the receipt of letters that hitherto have arrived on a Sunday often enables one to arrange for the makings on Monday and Tuesday, and up to the discontinuance of the Sunday post it and the first post Monday were often the most important means of deciding what the week's work at the factory was to be. The failure to collect letters on Sunday doubtless causes only slightly less inconvenience."

The increase in postal rates was accepted. It was stated to be a necessity. There should not, however, have been any curtailment of facilities. As soon as Parliament meets the receipt and collection of letters on Sunday should be restored and what it is necessary to pay to cover the cost will be accepted. If proper inquiry had been made mistakes such as these which do grave injury to trade could have been avoided. Parliament will I doubt not, alter it this month.

Norway Strike Settled

The prolonged strike in paper mills of Norway has been settled, both sides accepting the mediator's proposals for an immediate wage reduction of three kroner daily and later another kroner.

The Crown Prince of Sweden on Wednesday opened the new premises in Trinity square, London of the Swedish Chamber of Commerce. The Crown Prince on his arrival was conducted by Mr. B. de Marc, vice president and Mr. J. J. Bernstein, an ex vice president of the chamber to the council room and there received by Mr. H. Bendixson the president, in the presence of a large gathering.

At the luncheon which followed the opening ceremony, the Crown Prince said civilised countries could not exist for any length of time without keeping in constant commercial touch with each other. Sweden for instance, could hardly exist without importing English coal and Great Britain would find it difficult to get on without Swedish timber and wood pulp. Therefore he felt that everything ought to be done to promote commerce between the two countries on business like lines, using the good old system of mutual give and take especially at the present moment when all must try to combine their efforts whatever nationality they might belong to, to get out of this terrible financial depression which was causing so much suffering throughout the world.

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Pertinent Points on Paper.

Mr E A Dawe Addresses Master Printers

Mr Edward A Dawe, of H M Stationery Office, delivered an interesting if informal address to members of the Association of Master Printers of South East London on Tuesday at the Bridge House Hotel, London Bridge, Mr E B Smith the president, being in the chair.

Looking through various notes on paper in order to bring the address up to date, Mr Dawe said he marvelled how it was that consumers could buy paper at to day's price when papermakers were actually taking in chemical wood pulp at 6d lb and mechanical pulp at 1½d lb, yet they could get British made papers of excellent value at 6d lb. He concluded therefore that there had been a good deal of levelling up on the part of the paper maker and master printers must not be misled if the papermaker charged 4½d for a paper which the consumer thought he should get for 4d.

The speaker went on to say that there was one 'old man of the sea' whom Mr Howard Hazell was prepared to allow the printer to carry, and that was the paper trade customs. They were supposed to be agreed but they had been agreed by the Papermakers' Association he thought, to be a governing factor in the supplies of paper. Consequently printers were always paying for their wrappers at the price per lb of the enclosed paper. Mr Dawe advocated the Continental system by which paper of a definite substance was supplied and the wrapper was on the outside.

Price Factors

In recent years there had been considerable changes in regard to prices of papers. At one time esparto papers—not necessarily pure esparto papers—would cost ½d lb more than chemical wood printing papers. Now, with the topsy turveydom that had taken place esparto papers, and sometimes pure esparto papers, cost considerably less than wood pulp papers owing to the different ways of the mills and the fact that there was not so much

competition for esparto. The material influenced the price and the treatment also. Banks would always be more costly than printings, not because they contained different material or received different treatment but because they received much longer treatment. This applied to many papers. Special sizes and special colours would always influence the price against the printer.

Mr Dawe proceeded to refer to changing colours, odours, behaviour of inks and electricity in paper. With regard to the colour of paper changing printers should be advised not merely to purchase wisely and to employ intelligently the paper they stocked but also to preserve it carefully. As to ink not taking on the paper, it was not safe always to doctor the ink, the defect could usually be traced to faulty coating. In dealing with electricity Mr Dawe suggested Chapman's neutraliser which although it looked an elaborate affair was simple in principle. The electricity in the paper might be negative or positive it would not be definitely one or the other it might be one or the other or it might be both. To neutralise it, the ordinary lighting circuit was used where they had an alternating current. A bar ran across the printing machine and little points discharged electricity on to the paper and neutralised the electricity.

Replying to Mr Whyte, who asked how the electricity came into the paper after it reached the printing office Mr Dawe said the friction on the machine during the first printing probably induced it.

Specimens of lemon coloured paper made by only two firms in this country were produced to show three colour effect with two printings. It was described as extremely useful for magazine and other work.

The Wholesale Stationer

Mr Dawe mentioned a tendency of the Federation of Master Printers to cut out the wholesale stationer and he uttered a warning word in this connection. Had they ever realised what a stock of papers one house had to carry? he asked. Thereupon he named the various grades of writings, remarking that there was something like 3000 papers. If they went to one firm they could get 40 styles of I S writings each based in six substances. Then there were all the varieties of

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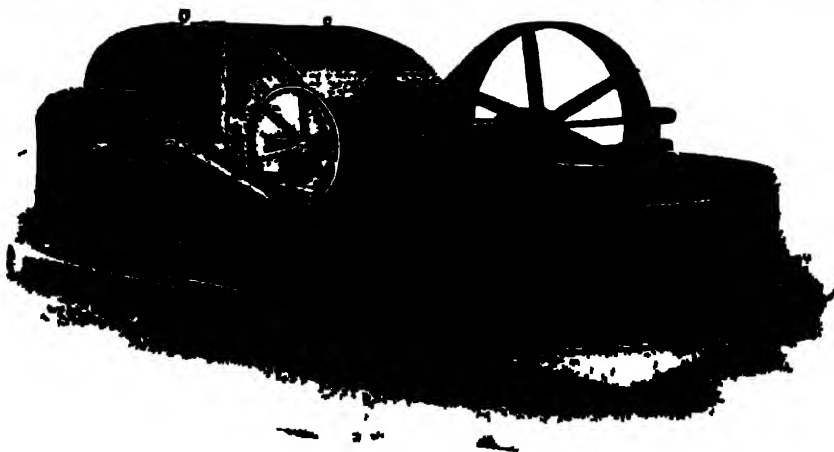
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printings. In the matter of the prices charged by the wholesale stationer the master printer had the matter well in hand by reason of competition. Mr. Dawe therefore did not see that by adding one more wholesale stationer to the present crowd was going to help the master printer at all. There were all those enormous stocks which were bewildering in their variety. Apart from the writings and printings there was a great variety of papers for colour work and for chocolate boxes there were 300 or 400 different sorts of fancy papers. Some were foreign papers, British embossed, others were drawn from all over the globe. These were all stocked by one house and the printer was not worried like the individual wholesale firm would be. The consumer could go and draw a quire if he wanted it and the extra cost would be less than he would pay for stocking it.

In the course of a discussion on this point master printers complained of customers buying paper direct and in some cases of supplies going direct to the customer.

Mr. Dawe observed that the whole fabric of commercial integrity had been shaken in recent years. It was not confined to printing or paper. People were not content to be wholesalers or retailers; they wanted to be both.

Trend of Prices

A note as to the trend of prices in the future was brought forth in answer to a question. The paper trade had been in a curious condition since 1915, said Mr. Dawe. There was a slump then, and again in 1916 and 1917. It seemed to have an annual slump, and the curious thing was that it came at the wrong time because when the trade expected to be busy the slump came. Papermakers filled up their order books at high prices and when they had worked off those orders everybody was eager to take paper, then came the slump and they could get paper for the asking. Mr. Dawe's view was that prices would rise a bit. He advised printers not to leave themselves with an empty stock room because they would be scrambling for what the papermaker could spare them. The hand-to-mouth existence brought trouble and if they paid 2d. a lb. more for paper they saved three times that amount in the cost running of their machines.

Answering a question with regard to the possibility of paper coming under the provisions of the Safeguarding of Industries Act the speaker thought things would right themselves without a schedule that would cost a large amount of money to print and another mint of money to understand.

On the question of the lowering price of coal and the costs of production Mr. Dawe mentioned that some mills had been converted for oil fuel and some were going back to coal. Oil was said to make a much cleaner paper.

Mr. H. N. Prentice, who moved a vote of thanks to Mr. Dawe, and who has a long association with the printing trade, said art papers, S.C. printings and other styles were unknown when he entered the trade. There was then

only one kind of printing paper of various qualities. As to writings two or three sorts served all purposes. He had witnessed the whole of the development which had since taken place in papers.

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THE WORLD'S Wood Pulp Industry

Scandinavian Rates of Exchange

THE following rates were current on the dates mentioned (par of exchange to £1—Christiania Kr 16 159, Stockholm, Kr 19 159, Helsingfors M 25 22½) —

		CHRISTIANIA Kroner	STOCKHOLM Kronor	HELSINGFORS Marka
Oct 6	31 25 34 45	16 60	16 70	250-260
7	31 20 31 40	16 63	16 67	255 265
8	31 35 31 50	16 50	16 60	255 262
10	31 40 31 73	16 45	16 55	253 263
11	31 55 31 76	16 39	16 48	250 255
12	31 65 31 75	16 40	16 50	245-250

British Imports Sources of Supply.

THE arrivals of wood pulp at British ports from various countries during the week ended October 1st 1921, were as under —

BLEACHED CHEMICAL—DRY			
Sweden	200 tons		£1000
Finland	5 "		100
UNBLEACHED CHEMICAL—DRY			
Finland	1 620 tons		£21 670
Sweden	975 "		44 769
Denmark	400 "		16 363
Norway	185 "		7 430
Germany	9 "		139
CHEMICAL—WET			
Finland	94 tons		£50
MECHANICAL WET			
Norway	2 850 tons		£17 550
Canada	500 "		6 027

United Kingdom

A BETTER tone has revealed itself in the wood pulp market and there are prospects of more business being done in the near future

IN the meantime little is being transacted although inquiries are fairly numerous

PRICES generally have eased, with the exception of mechanical where there has been a stiffening in response to demand

OUR Norwegian friends are anxious that prices should be known in this country, and

they are kindly forwarding us the official quotations each week based upon business done

THIS is, we believe, the only exchange in the world which has an official quotation for pulp

GERMAN chemical pulps, we hear, are selling freely and all available quantities have been taken up for the time being we understand

Norway

NEWS comes to hand this week that the strike in the pulp and paper mills has terminated

THE strike has been holding up the industry for some time, although the effects would have been much more serious had the market been better

THE conclusion of the strike comes at an opportune moment in view of the fact that a little more liveliness has developed in the pulp market

MORE activity for instance, is reported particularly in regard to bleached sulphite and kraft pulp

ALTHOUGH prices generally are at a low level, there has been a stronger tendency in the case of kraft pulp and better prices are said to have been paid than for some time past

INQUIRIES for moist mechanical pulp are broadening and both United Kingdom and continental consumers are in the market

QUOTATIONS for dry mechanical are also stronger, but sales have not been extensive

EXPORTS of moist mechanical during August exceeded the quantity sent overseas in the corresponding month of 1920, 32 378 tons comparing with 26,985 tons

DRY cellulose exported during August represented 9,051 tons, as against 16,350 tons in August last year

Sweden

PULP business is moving slowly, and such is the condition of the market that hope is almost abandoned of seeing buyers coming forward before navigation closes in the Baltic

THE mechanical market however is firm, and prices are on a higher level the United Kingdom and France being in the market

Finland

THE Association of Finnish Manufacturers report a satisfactory situation of cellulose in the world's market which is very encouraging in spite of fall in prices

GERMANY has bought large quantities of sulphate cellulose and France has nearly met all her needs with Finnish chemical pulp

ENGLAND has bought up stocks several months old and America has given large orders for sulphite and sulphite celluloses which are very cheap owing to the rate of exchange

United States

IMPROVED activity is reported in the pulp market particularly however for foreign brands

AN increasing demand appears to cover all grades of chemical pulp with the result that prices have become more or less stabilised

THE market for ground wood is steadily stiffening and available supplies are limited owing to the restrictions forced upon the mills by low water

PRICES are variously quoted from \$20 to \$30 a ton

THE Washington Government has received no reply from Great Britain relative to the appointment of a Pulp Wood Commission to Canada in accordance with the Underwood resolution, and no Commission will be appointed by the United States President until after the British Government has replied to the American note

Canada

LITTLE change is to be noted in the pulp situation, although it may be anticipated that business will develop on the lines taken in the United States

IN the meantime, however, demand is described as sluggish with prices unchanged

THERE is little demand for pulp wood owing to the fact that larger mills are amply stocked

OPERATIONS in the woods this season will, it is said, be conducted on a very limited scale and there are not many signs of any improvement for some time to come

MOST of the cutting which will be undertaken this autumn will only be for wood actually requisitioned by mills

IN spite of the heavy decrease in the wages of men in pulp wood and lumber camps these wages are in some cases about \$25 or \$30 a month or less than a half of those paid last year whenever there is a call for men to go into such camps the concerns issuing the calls are literally inundated with applications

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BRITISH IMPORTS OF CHEMICAL AND MECHANICAL WOOD PULP.

For the week ended October 1st, 1921.

An Official Account of the Registered Quantities and Values of Chemical and Mechanical Wood Pulp Imported at the various Ports of the United Kingdom.

BLEACHED CHEMICAL-DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
1921				Bales	Tons	£
Sept 28	London	Sicilia	Kotka	31	5	100
" 28	Grangemouth	Vina	Waiga	1,200	200	5,000
			Add to Amend			
Aug 26	London	Gerona	Sarpsborg	680	100	7,130
			Deduct to Amend			
Aug 18	Grimaby	Forcello	Christiania	-	-	642

UNBLEACHED CHEMICAL DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
1921				Bales	Tons	£
Sept 28	London	Saga	Gothenburg	70	10	150
" 28	"	Sicilia	Kotka	30	5	70
" 28	"	Desdemona	Hamburg	30	9	139
Oct 1	Hull	Mode	Helfo	2,250	25	9,450
Sept 28	Preston	Holmengra	Ulabajo	1,500	200	9,699
" 30	"	Loid	Gefle	4,940	490	24,970
" 30	"	Hessheim	Wiborg	4,840	1,615	21,600
" 27	5 Shields	Breda	Christiania	680	80	3,250
" 26	Grangemouth	Breda	Drammen	00	100	4,200
" 27	Granton	Uno	Holmenes	2,000	400	16,565
			Add to Amend			
Feb 4	Liverpool	Statesman	Vancouver	-	6	100
			Deduct to Amend			
Aug 26	London	Gerona	Sarpsborg	680	110	7,130
" 18	5 Shields	Orion	Domsjo	-	-	2,981

CHEMICAL-WET

Date	Port	Vessel	Port whence	Quantity	Value	Importers
1921				Bales	Tons	£
Sept 30	Preston	Loid	Wiborg	509	94	580

MECHANICAL WET.

Date	Port	Vessel	Port whence	Quantity	Value	Importers
1921				Bales	Tons	£
Sept 27	London	Bark II	Larvik	5,800	1,100	4,260
" 28	Preston	Vestfow	Drammen	7,600	1,800	10,750
" 28	"	"	"	1,000	200	2,190
" 28	Grangemouth	Holmengra	Bollstabruk	3,048	500	6,027
" 28	"	Breda	Christiania	250	58	850
			* Under Query subject to amendment			
			Deduct to Amend			
Aug 16	Cardiff	Monkstone	Selock	284	47	900

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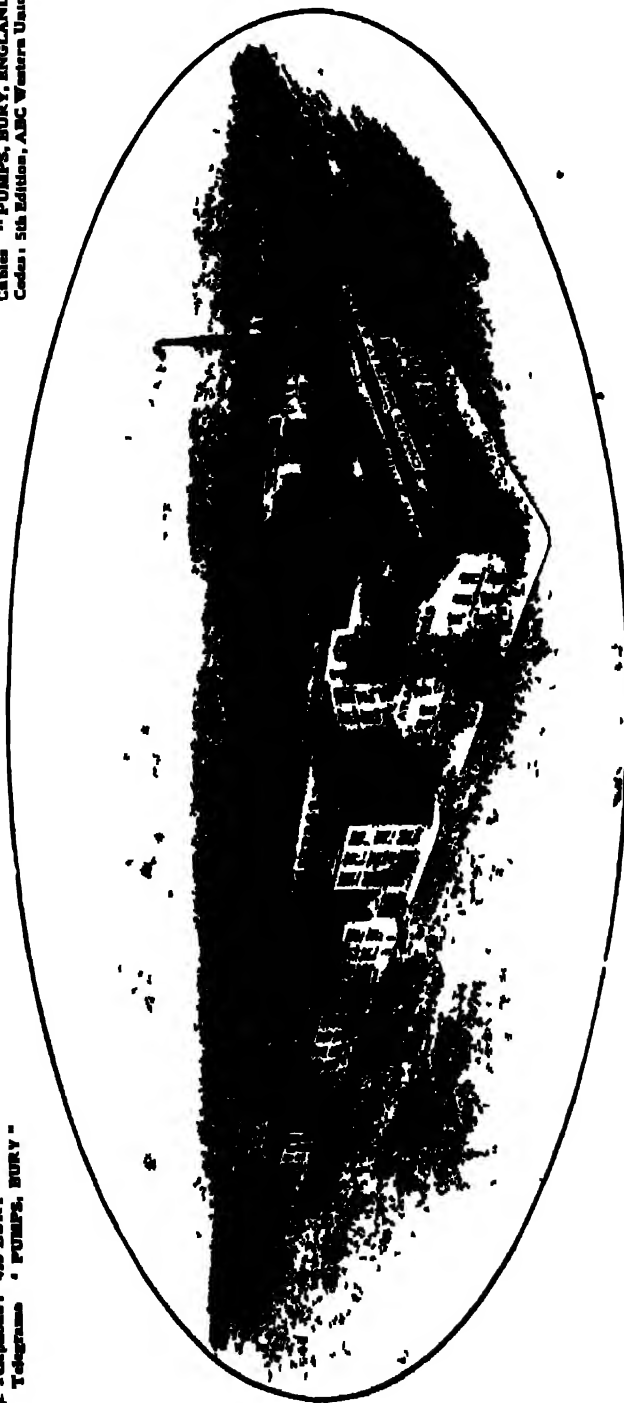
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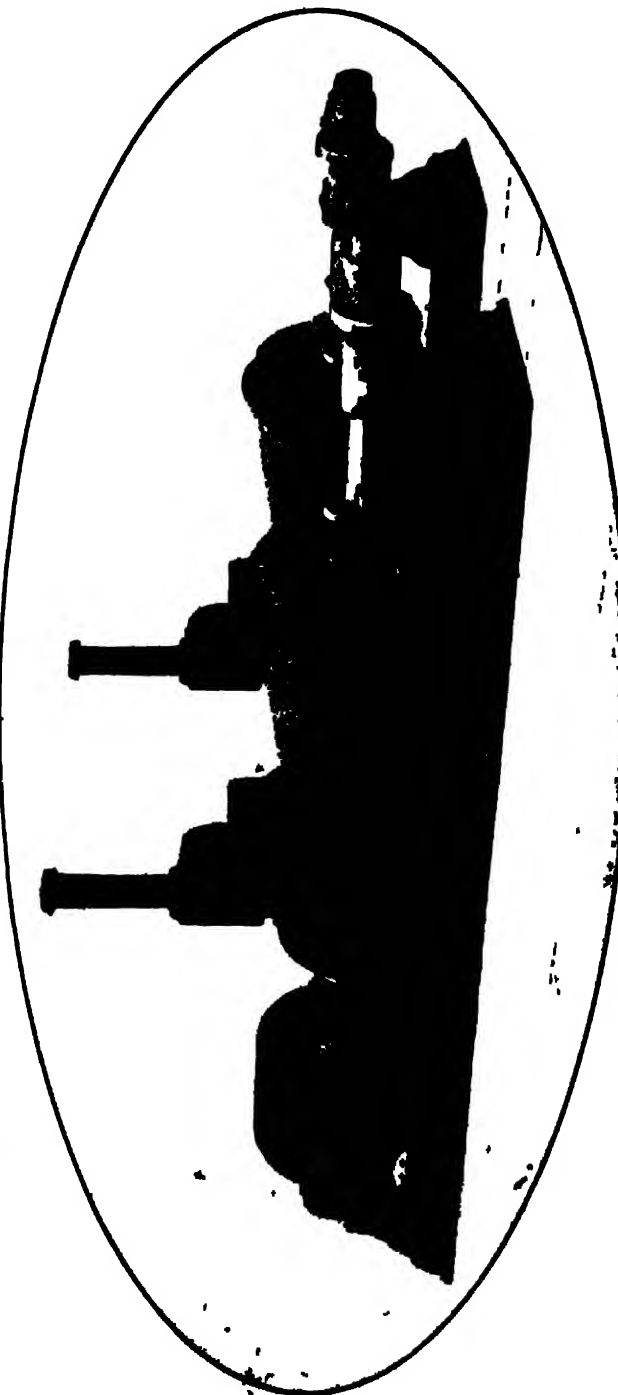
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Advantages in the Production of Wood Pulp

In the course of a lecture before the Swedish Technical Association of Paper Manufacturers Captain Olsson dealt with the subject of Electric Steam Boilers as follows:-

Although electric boilers have been in use for several years they have only recently been seriously considered. But with the enormouslv increasing prices of fuel, the possibility of using electricity on a much greater scale has received a good deal of attention. Technically the problem of producing steam by electricity presents few difficulties.

Electric boilers have very great advantages over the ordinary fired boilers. They occupy little space, are easily mounted in the mills and above all, they are independent of chimneys and smoke stacks. The care of the electric boiler is quite simple as they generally require nothing but an attendant to manipulate the switches and regulate the feeding. In most cases the construction of the boiler is such that the efficiency of the attendant is of little importance because the steam is made automatically and with absolute uniformity. Boiling dry and subsequent inconvenience danger of explosion etc. are eliminated. In electric boilers incrustation

does not occur, since all the waste matters or sludge drop to the bottom, whence they can be easily removed by the blow down process.

The problem is chiefly an economic question. To illustrate this part of the subject, the following figures are given: 1 kilogram of coal (2.2 lb) of average quality will produce about 6,500 calories. If we figure on a boiler efficiency of 70 per cent, 4,500 calories will consequently be obtained in the steam. If we do not include the loss in conversion 1 kilowatt corresponds to 856 calories. If the efficiency of the electric boiler is 96 per cent there will consequently be utilised about 832 calories. Comparing these figures we find that 1 kilowatt corresponds to about 0.4 lb of coal (anthracite). On this basis it may be calculated in what instances it will be profitable to produce steam by electricity.

If an industry has to purchase the electric power, the price of course may vary for different reasons. One way is to pay a fixed price per kilowatt. In such a case the prices of coal and power compare as follows:

Per ton of coal corresponds to about

30 kr	0.54 ore per kw
50 kr	0.95 ore per kw
100 kr	1.77 ore per kw
150 kr	2.66 ore per kw

If however the electric power costs a certain sum per kilowatt year, another result will be reached which of course will depend upon the number of working hours per annum. It is clear that with longer working hours it is



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more economical to use electricity To illustrate this the following figures are given

A 7,200 working hours

Per ton of coal corresponds to

30 kr	38 kr per kw yr
50 kr	65 kr per kw yr
100 kr	129 kr per kw yr

B 3,600 working hours

Per ton of coal corresponds to

30 kr	18 kr per kw yr
50 kr	32 kr per kw yr
100 kr	65 kr per kw yr

The foregoing calculation postulates that first rate power is used When the power is of this nature the economical factor will largely depend upon the price of coal and there is consequently a certain force in the argument that the use of electric boilers will be somewhat restricted if the price of coal returns to normal There is, however, another field of activity for electric boilers in which they are practically in no wise dependent upon the coal market

Surplus Power Used

This boiler utilises in the production of steam all the surplus power that is now wasted Such surplus power will be found in all industrial works with an individual power plant, the energy of which is not continuously consumed, or at industrial works paying for electric energy on the basis of maximum consumption, regardless of whether the power is used for a longer or shorter time Further, some of the larger power plants have con-

siderable surplus power at certain periods of the year when the supply of water is plentiful, and during certain hours of the day—a surplus of which it is hard to dispose with an advantageous result Much attention is paid to this disposal in Sweden, where all power plants owned by the Government endeavour to employ this surplus energy for the production of steam

The cost is modified by the scheme which provides for the payment of the cost on a sliding scale so that the price of the power always keeps relatively below the market price of coal So much may be said of the economic aspects of the production of steam by electricity

To form a judgment as to the size of the boiler plant needed, the estimate may be made on the basis of the steam required, or on the basis of coal consumption Based on the steam requirement, the calculation must determine the quantity of steam that can be developed at different temperatures of the supply water To illustrate, the following figures are given With a steam pressure of 12 kilogrammes to the square centimetre and a feed water of 0°C, there will be developed about 123 (27 lbs) kilogrammes per kilowatt hour and—

at 30°C feed water temp	128 kilos (28 lbs)
at 40°C feed water temp	135 kilos (30 lbs)
at 50°C feed water temp	140 kilos (31 lbs)

On the other hand if the calculation is based on coal consumption, one ton of coal

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as we know, corresponds to about one h p year. For example, A pulp mill needs for producing steam 800 kilogrammes (1,760 lbs) of coal per ton of pulp. If the output of the mill is 10,000 tons of pulp a year, this quantity will correspond to a consumption of 8,000 tons of coal, or in other words, 8,000 h p year, which is roughly equivalent to 6,000 kilowatts.

Two Types.

Electric steam boilers are generally of two types, boilers with resistance cells and boilers with electrodes. In the case of the former the electric energy is converted into heat in the cells whence it is conducted to the water. The cells are either open with the conducting parts in direct contact with the water or enclosed in tubes or other suitable material. An alternating current should always be used with open cells or elements, for otherwise the water would be decomposed, in the case of closed cells both an alternating and a direct current can be used. The electric boilers provided with resistance elements can only be used for a voltage up to 800.

Boilers with electrodes can be used both for low and high tension but only with an alternating current. The electrodes conduct the current into the water, which itself forms the resistance cells converting electric energy into heat. The electrodes are either insulated or non insulated, in the former case the object is to lengthen the path of the current through the water. In low tension boilers the electrodes are non insulated, in the high tension

devices they are usually enclosed in a casing. In the mills, most of the boilers are of high tension, since the current employed is generally high tensioned. By carrying the current directly into the boilers, all special transformers are avoided these devices being always rather costly.

The Apparat Aktiebolaget, of Stockholm, manufactures electric boilers of low and high tension types up to 20,000 volts. They are built in various sizes up to 5,000 kilowatts, and are of upright or horizontal plan. They have been installed during the past year, have no loose parts, and are consequently most accurate in operation. The dryness of steam as we know depends largely upon the efficiency of the boiler, in the case of these boilers the efficiency is equal to that of the ordinary coal fired boilers. The dryness of the steam is sufficiently high to enable it to be used for engine power.

The electrodes are generally inserted in the lid of the boilers and are arranged in groups of three and three each phase being opposite to the three phased alternating current. The number of course varies with the size of the boiler. A screen is provided inside the boiler to ensure a better circulation. Owing to this arrangement the circulation is very even which is important because the resistance of the water is thereby maintained at a uniform level. Waste of the current is thus avoided.

The conductor passing through the water ends in an iron shoe which is in direct contact with the fluid. The iron shoe as it is

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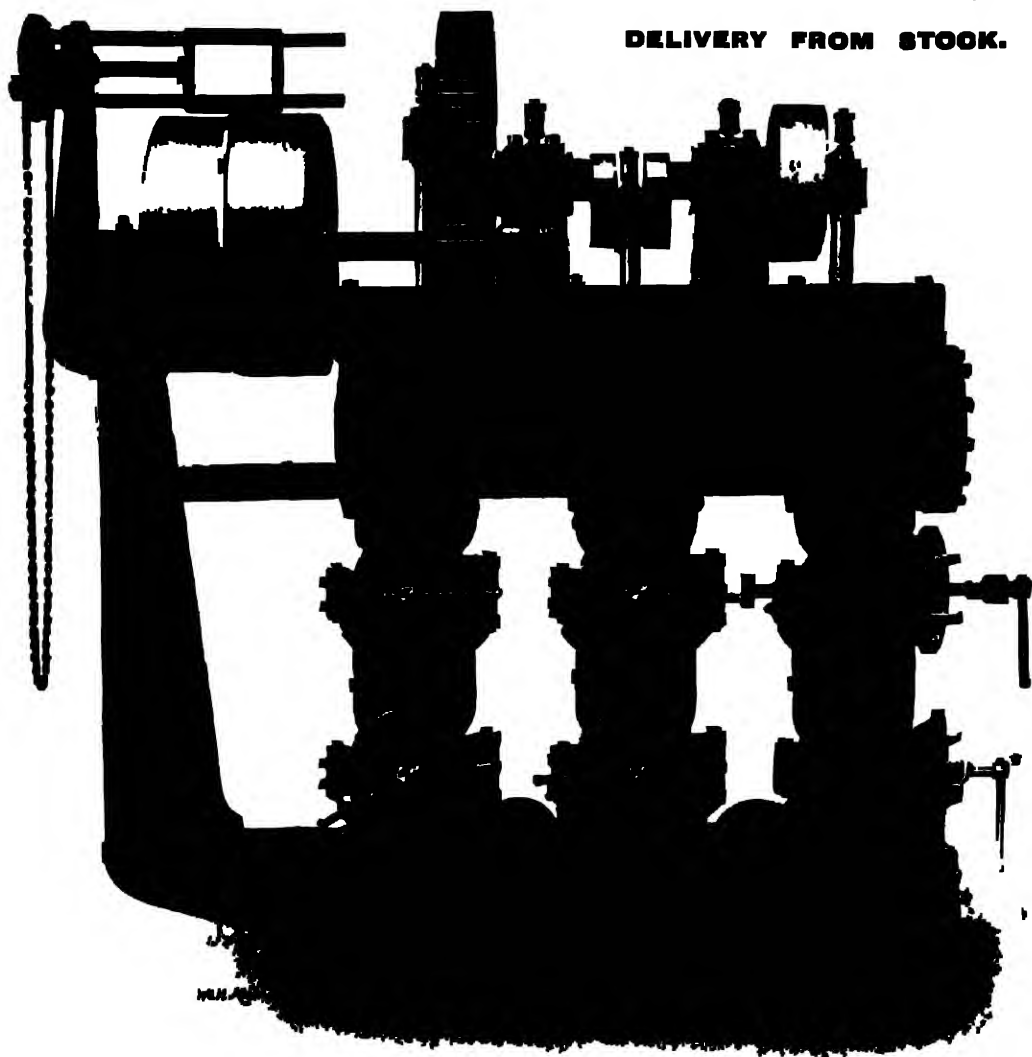
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generally called the electrode, is enclosed in a porcelain tube the size of which depends partly on the voltage to be used and partly on the resistance of the feed water. This feed water varies considerably when taken from small lakes and rivers. It has been shown at some of the electric boiler plants built by the Apparat Aktiebolaget, that the resistance of the water varied between 4000 and 42000 Ohms per cubic metre. These extremes, however, are very unusual. The resistance generally is about 25000 Ohms per cubic metre.

A Point of Great Importance

The way in which the production of steam is regulated is of great importance. It is effected by means of a combination of different systems. The coarser mechanism consists in switching on or off a larger or smaller group of electrodes. If no exterior cause prevents the current may be regulated by connecting and disconnecting a certain number of individual electrodes within a number of groups. In all cases the most accurate or delicate regulation is effected by changing the resistance of the water. When the boiler has been in use, there is always present what we may call spent water which, as a conductor, is much superior to fresh water. By means of a mixture of fresh water—a poor conductor and spent water with its greater conductivity, the resistance of the water can be regulated within fairly wide limits. The production of steam is regulated in the same way. The quantity of water to be added or removed for this purpose is small and of no influence on

the efficiency of the boilers. Moreover, the boiler is adjusted to carry a certain charge—a matter of no difficulty—and it is only necessary once a day to equalise the mixture in order to maintain a constant charge. It must also be recalled that the resistance largely depends upon the temperature of the water, being lessened as the temperature rises.

The actual working of the electric steam boiler in the pulp and paper mills of the Wargon Company may be thus described. In this connection an important factor is that the company has a central electric plant. The installation consists of seven electric boilers each 7000 kilowatts with a voltage of 10000 and pressure of 12 kilograms per square meter.

The results have been eminently satisfactory in these mills. The company has drawn attention to the facts in a report which contains the following. Practically all the steam necessary for both sulphite and sulphate mills is produced by electric boilers. To attend them only one man is required per shift. Compared with our coal fired boilers we save a force of about 17 firemen 65 tons of coal per day and all the labour, tonnage and rolling equipment which was required for transporting, transshipping, discharging and conveying coal and ashes. The boilers work efficiently with nearly 10 per cent profit. They produce about 1.25 kilograms of steam at 10 kilograms pressure per kilowatt hour. To get up steam after a standstill only requires from 10 to 20 minutes. The operation is simple, convenient and clean.

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Scottish Paper Trade.

(By Our Own Correspondent)

THE paper trade still bears its full share of the prevalent general trade depression and mills continue to work intermittently. To a great extent the business that is going is being taken at a loss.

ONE or two orders for African grass have recently been placed in Scotland at prices round about £4 per ton.

THERE is little business in wood pulp, and the few small parcels which have been bought have been re-sale lots at prices considerably lower than the Scandinavian mills are prepared to accept at the present time.

THE box making trade shows a very slight tendency towards improvement but this appears to be of a seasonal nature, anticipating the Christmas rush. Speaking generally buyers are simply feeling their way and placing small lots, holding the idea that prices will become still lower.

MR STANLEY BERTRAY, the works manager at Hendon Paper Works, Sunderland, has been appointed to succeed Mr James Stewart at Chirnside Paper Works.

Swedish Pulp Market.

THE English papermakers have still sufficient stocks of both sulphite and sulphate cellulose and it is very likely that there will not be any real revival of the British cellulose market this year, says *Skogsvarlden*. The prospects of seeing the continental buyers coming into the market before the close of navigation in the Baltic are also very small, and the principal question is whether the buyers will be able to take delivery of the

quantities they have already bought for this year.

The reports from U.S.A. are satisfactory. The paper mills over there are resuming operation on a broad scale and there is a general feeling that both the paper and pulp prices have reached the rock bottom level. The confidence on the part of merchants, printers and public seem to return.

Bleached and strong sulphite are in good demand in U.S.A., but as a rule the paper-makers only buy for prompt delivery. The quotations are firm at \$37-4 per 100 lbs ex-dock for bleached sulphite and \$250-275 per 100 lbs for strong sulphite.

It is however, kraft pulp that is actually most in demand in U.S.A. and the prices have had a stiffening tendency. \$235-250 per 100 lbs ex dock is now freely paid and in special cases up to \$275 have been obtained. The sales of kraft pulp during September to U.S.A. amount to ca. 25,000 tons.

On account of the great reduction of the output of mechanical wood pulp the market is now firmer and the prices have had a rising tendency. There are inquiries for wet pulp in the market from England and France and a couple of sales have been made at kr 57 to kr 65 per ton f.o.b. west coast for wet pulp, kr 50 to kr 58 per ton f.o.b. Baltic ports.

Exports of Papermaking Materials.

Sept	1921	7,121 tons	£64,805
	1920	9,104 "	211,086
	1913	16,202 "	78,357
Jan	Sept, 1921	42,795 "	484,651
	1920	108,250 "	1,997,105
	1913	147,902 "	700,354

China Clay Exports from U.K.

Sept	1921	42,643 tons	£110,198
"	1920	59,269 "	179,880
"	1913	13,014 "	17,646
Jan-Sept,	1921	147,891 "	461,552
"	1920	378,007 "	1,078,913
"	1913	474,989 "	558,263

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Paper Bag Wages.

Reduction in Minimum Rates

The Paper Bag Trade Board (Great Britain) at a recent meeting resolved to vary minimum rates of wages for male and female workers employed in the trade in accordance with their Notice of Proposal P (6). The variations which have been decided on by the Trade Board provide for a reduction in the minimum rates, the principal reductions per hour being as follows —

General Minimum Time Rates

A FEMALE WORKERS Female workers of 18 years of age and over from 9½d to 6½d

B MALE WORKERS. (i) Machine tacklers of 23 years of age and over who have had not less than 3 years' experience as machine tacklers, from 1s 8½d to 1s 6½d (ii) paper bag cutters of 23 years of age and over who have had not less than 3 years' experience as machine cutters from 1s 6½d to 1s 5d (iii) hydraulic pressers shitters stockkeepers packers and despatchers after 3 years service after the age of 21 in the same occupation, from 1s 5d to 1s 4½d (iv) Male workers of 21 years of age and over other than those specified in (i) (ii) and (iii) above from 1s 4½d to 1s 3½d

The reductions made by the Trade Board in the minimum rates of wages for machine tacklers paper bag cutters hydraulic pressers, etc of lesser age and/or experience and for male and female learners are in proportion to the reductions respectively set out above

PIECE WORK BASIS TIME RATES — All female workers from 9½d to 8½d

OVERTIME RATES — The overtime rates applicable are calculated on the basis of the reduced general minimum time rates or the piece work basis time rates as the case may be

Notification of the minimum rates of wages as varied by the Trade Board has been sent to the Minister of Labour with a request that he should confirm the rates as varied and the Trade Board has suggested that the new rates should come into operation as soon as pos-

sible. If and when the minimum rates of wages as varied by the Trade Board are confirmed by the Minister of Labour and made effective due notice will be given as required by the Trade Boards Acts

Paper Market in Germany.

Reported Big Push of Orders

The *Papierzeitung* states that the demand for paper of all sorts has increased with a rush the paper mills are snowed under with orders and the wholesale houses have in many cases sold out. This extraordinary state of affairs has been brought about by the Convention increasing the prices of certain kinds by 10 per cent thus giving rise to the fear that increases may be made in other directions especially in view of the new demands for higher wages for the workers and the greater possibilities of export trade with the falling Mark. Also the strike in the mills of Saxony encourage people to secure supplies.

And yet there are circumstances which should serve to restrain buyers the increasing prices lead to shrinkage of demand and the wages war in the printing trade may easily lead to closing down. Again, prices continue to fall abroad along with the falling wages and business in the countries with strong exchanges is dull. Therefore moderation is advisable — M A

At the conference of the Federation of German Industries the significant suggestion was made that Germany must use every effort to increase her exports to such an extent that the world would come to realise that the economic burden forced on Germany would mean ruin for other lands. At the same conference a speaker asserted that the loss of money in England through unemployment resulting from Germany's competition was greater than any indemnity which England would receive from Germany.

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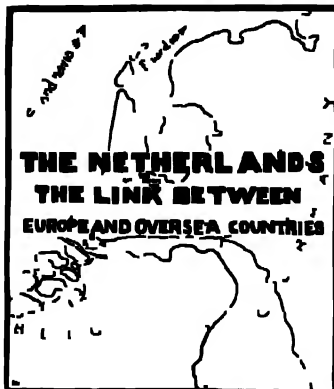
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Hazlewood & Sons, Ltd.,**NELSON WORKS, PATRICROFT, Near Manchester****Speciality Colours for the Paper Trade.**

MARKET REPORTS.

Telegrams—STONHILL, FLEET, LONDON
Telephone—8487 CITY

Chemicals.

Business in the chemical market cannot be described as of a stable nature, and with the coming into operation of the Safeguarding of Industries Act signs of a permanent revival of business are not yet in sight. AMMONIA ALKALI is in good demand at £8 17s 6d per ton for the home trade and £10 5s to £10 10s per ton for export. BLEACHING POWDER is idle, and is quoted £15 per ton for the home trade and £16 to £16 10s per ton for export. CAUSTIC SODA continues in steady demand, and is £25 to £26 per ton for 76 per cent. £24 to £25 per ton for 70 per cent, and £23 to £24 per ton for 60-62 per cent, carriage paid. SALT CAKE is less in demand at £6 to £6 10s per ton in bulk, and £7 per ton for export. ALUM, for which little inquiry is being made, is £16 10s to £17 per ton for home trade purposes, and £16 to £16 10s per ton for export. SULPHATE OF ALUMINA which is quieter, is £12 10s to £15 per ton according to grade. SULPHUR is in steady demand, English Flowers being quoted £16 to £16 10s per ton, Roll £15 10s to £16 and Rock £13 to £14. Sicilian grades are Flowers £13 10s per ton, Roll £13 and Rock, £7 10s.

Chemical Wood Pulps

There is a brightening in the chemical wood pulp market particularly with regard to bleached sulphite. German pulps appear to be particularly prominent, and in some cases are sold out to December. Little is being done in easy bleaching of strong sulphite. Scandinavian prices are declining.

Mechanical Wood Pulps

Demand for mechanical pulp is still fairly good, and the effect is seen in stronger prices.

Esparto.

The market for esparto continues quiet, and stocks are not yet dispersed. There is talk of a possible shortage of supplies in view of the good harvest in North Africa, which has caused merchants to stand aside from the collection of esparto especially in view of the low prices prevailing.

Home Rags.

There is a slightly better tone in the rag market, although the amount of business passing is small. There is, however, some demand for the better grades and prices show little variation.

Foreign Rags.

A little more movement is to be noted in foreign rags. In the United States particularly the requirements of papermakers have induced a better attention to collection.

Waste Papers.

Although moving slowly there is a better feeling with regard to waste papers which appear to be at last getting out of the Slough of Despond in which they have been plunged so long. There is still considerable room for improvement, but dealers are looking to the future with a good deal more hope than they had reason to indulge in lately.

Starch.

Demand for starch is on the slow side although prices for some grades are easier.

Loadings, etc.

The market for china clay and other loadings is quiet and business is slow to get into its stride again. Nevertheless, there are signs of progression and demand is slightly better both for home and export.

Greaser Cellulosefabrik, CHRISTIANIA.

HIGH-GRADE EASY-BLEACHING

Sulphite Pulp

Annual Production 20,000 tons.

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New Linen and Cotton Rags,
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Jute and Linen Waste,
etc

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CRESCENT



BRAND.

TRADE MARK.

GUARANTEED 58 DEGREES.

Equal to 98 per cent. Carbonate of Soda.

The **STRONGEST** and **PUREST** form of the article in
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CAUSTIC SODA,

EXCEPTIONALLY PURE.

76/77 %

70/72 %

60/62 %

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58, Shoe Lane, London E.C. 4

Telephone No 8407 CITY

CURRENT PRICES

OF

PAPERMAKING MATERIALS

CHEMICALS.

Quotations are nominally as follows —

		£	s	d
Alkali, Ammonia, 50% for works	8 12 6	8	12	6
Alum (Ground) tierces for b L pool	24 7 6	24	7	6
" " tierces " Hull	24 7 6	24	7	6
" " tierces " Glasgow	24 7 6	24	7	6
" (Lump) tierces " L pool	24 7 6	24	7	6
" " tierces " Hull	24 7 6	24	7	6
" " tierces " London	24 7 6	24	7	6
Alumina Sulphate 14% bags for Tyne	12 0 0	12	0	0
" " Hydrate 30% bags for Tyne	12 0 0	12	0	0
Aluminoferrous Cake, slabs Liverpol	7 10 0	7	10	0
Alumina Cake, slabs Glasgow	9 0 0	9	0	0
Berium Chloride for Tyne	12 10 0	12	10	0
Blanc Fixe	21 10 0	21	10	0
Bleach (soft wood) carriage paid	15 0 0-16 0 0	15	0	0-16
" (hard wood) for b L pool net	17 0 0	17	0	0
Borax (crystals) for b L pool net	34 0 0-35 0 0	34	0	0-35
" (powdered) " "	36 0 0	36	0	0
Caustic White 77% for b L pool net	26 0 0	26	0	0
" " 78% " "	26 0 0	26	0	0
" " 79% " "	26 0 0	26	0	0
" " 80% " "	26 0 0	26	0	0
" " 81% " "	26 0 0	26	0	0
" " 82% " "	26 0 0	26	0	0
" " 83% " "	26 0 0	26	0	0
" " 84% " "	26 0 0	26	0	0
" " 85% " "	26 0 0	26	0	0
" " 86% " "	26 0 0	26	0	0
" " 87% " "	26 0 0	26	0	0
" " 88% " "	26 0 0	26	0	0
" " 89% " "	26 0 0	26	0	0
" " 90% " "	26 0 0	26	0	0
" " 91% " "	26 0 0	26	0	0
" " 92% " "	26 0 0	26	0	0
" " 93% " "	26 0 0	26	0	0
" " 94% " "	26 0 0	26	0	0
" " 95% " "	26 0 0	26	0	0
" " 96% " "	26 0 0	26	0	0
" " 97% " "	26 0 0	26	0	0
" " 98% " "	26 0 0	26	0	0
" " 99% " "	26 0 0	26	0	0
" " 100% " "	26 0 0	26	0	0
Sulphite of Soda, 5-7 cwt chs for Tyne	12 10 0	12	10	0
Hypo-Sulphite of Soda " Tyne net	12 0 0	12	0	0
Gambic Acid for b L pool net per lb	3 0 0	3	0	0
Satin White for b London	13 0 0	13	0	0
" " Manc net	13 0 0	13	0	0
Sol Ammoniac (Fire) lump for Widnes net	6 0 0	6	0	0
" (Secunda) per ton 6 s 0-7 s 0	6 0 0	6	0	0
Salt Cake, Tyne 1 ton min	7 0 0	7	0	0
Soda Crystals (Bags) ex-Wharf	7 0 0	7	0	0
" " for b L pool net	7 0 0	7	0	0
Sulphate of Ammonia delivered	24 10 0	24	10	0
Sulphate of Copper for b L pool	31 0 0	31	0	0
Sulphur, rolls, bags for 17 s 0-18 s 0	17 0 0	17	0	0
" " rock " net	12 0 0	12	0	0

CHEMICAL WOOD PULPS**GREAT BRITAIN**

F o b prices, with freight and insurance, work out at approximately, per ton c i f U K ports —

Sulphite, Bleached, 1st Quality	£20 0 0
" " Easy Bleaching, 1st Quality	14 0 0-17 0 0
" " "News" or Strong Quality	21 10 0-26 10 0
Soda, Unbleached, 1st	21 10 0-24 0 0
" " Kraft or Strong	18 0 0-23 0 0

NORWAY

Per ton f o b, net cash

Sulphite, Bleached	Kr 603
" " Easy Bleaching	478
" " Strong	445
Sulphate, Easy Bleaching	478
" " Kraft	445

SWEDEN

Per ton f o b net cash

Sulphite Extra Bleached	Sw K 330-360
" " Easy Bleaching	270-300
" " Strong	230-250
Soda Easy Bleaching	270-300
" " Kraft	200-210

FRANCE

Prices c i f Rouen, per 100 kilos (2 cwt) based on actual rates of freight and exchange

Sulphite Bleached, Superior	Frn 180-175
" " Ordinary	140-150
" " Easy Bleaching	125-135
" " Unbleached Strong Prima	100-110
" " "Secunda	90-100
Soda Pulp Bleached Superior	130-135
" " Easy Bleaching	110-120
" " Strong Unbleached, Prima	95-105

UNITED STATES

Prices in Dols —

Sulphite, Bleached	Dols 3 75-4 50
" " Easy Bleaching	3 00-3 50
" " Unbleached	0 50-0 75
Sulphate, Bleached	0 35-0 50
" " Unbleached	0 25-0 35
Kraft Pulp	0 85-1 25

Domestic delivered Mill —

Sulphite, Bleached	3 75-4 50
" " Unbleached	3 00-3 50
Soda, Bleached	4 00

CANADA

Sulphite, Bleached	50 00-50 00
" " Easy Bleaching	6 00-70 00
" " Strong	55 00-60 00
Sulphate, Kraft	00 00-05 00

MECHANICAL WOOD PULPS**GREAT BRITAIN**

F o b prices, with freight and insurance, work out at approximately, per ton c i f U K ports —

Pine, 30% moist, unwrapped, prompt forward delivery	£4 0 0-4 5 0
" " dry, prompt delivery	7 13 0-8 5
" " forward delivery	

NORWAY

Per ton f o b

Pine, 30% moisture	Kr 107 1/2
" " dry	90 00

SWEDEN

Per ton, f o b Net Cash

Pine 30 per cent moisture	Kr 57-60
" " dry	210-225

FRANCE

Prices, c i f Rouen, per 100 kilos (2 cwt) based on actual rates of freight and exchange

Pine, 30% moisture	Frn 60.00-70.00
" " dry	25.00-35.00
Aspen, " fine dry	100.00-120.00

CANADA

Per ton (net mill) — Dols 20.00-40.00

ESPARTO.

C I P U A Ports

Spanish—First Quality	45 10 0
Guns	4 5 0
Bona and Philipperville—First Quality	4 5 0
San and Gabon—First Quality	4 5 0

HOME RAGS.

Nominal Prices

LONDON			
N. White Cuttings	58/6	London Thirde	4/6
New Prints and		Country "	8/6
Salicins	30/6	Canvas, No 1	26/6
New Duck Cut		" No 2	31/6
tings (Gent)	25/6	" No 3	7/6
Fines (selected)	20/6	Mixed Rops	5/6
" (ordinary)	14/6	White Strings	43/6
Outshots	18/6	White Manila	
London Seconds	4/6	Rops	18/6
Country "	12/6	Coil Rops	14/6
Soft	10/6	Bagging	14/6
		Gunny	4/6

BRISTOL

Fines	28/6	Clean Canvas	22/6
Outshots	19/6	Second Canvas	17/6
Seconds	14/6	Light Prints	15/6
Thirde	4/6	Hemp Coil Rops	13/6
Mixed Bagging	3/6	Tarred Manila	10/6

MANCHESTER

Fines	30/6-35/6	Blues	9/6-12/6
Outshots (best)	18/6	Bagging	4/6-6/6
" (ordinary)	15/6	(common)	3/6-4/6
Seconds	10/6-12/6	W Manila Rops	14/6-16/6
Thirde	3/6-4/6	Surat Taras	3/6-5/6
Prints	7/6-8/6	Gunny	7/6-9/6
Selected Prints	10/6-12/6		

EDINBURGH

N W Cuttings		Light Prints	
(selected)	70/6	(extra)	14/6-16/6
N Light Prints	45/6	Dark Prints	14/6-16/6
N Dark	25/6	W Manila Rops	22/6
N Blue Dungarees	45/6	Tarred	14/6
Superfines	50/6	" Hemp "	31/6
Second Fines	40/6	No 1 Bagging	7/6
Best Seconds	30/6	No 2	4/6
Ordinary Seconds	20/6	Common	2/6
Thirde	10/6		

GLASGOW

Best Fines	35/6	N Lt Flannellettes	35/6
Second Fines	30/6	W Manila Rops	20/6
Ordinary Seconds	18/6	Tarred Manila Rops	10/6
Common Seconds	14/6	Tarred Hemp Rops	20/6
Old Best Lt Prints	25/6	No 1 Canvas	40/6
Old Clean Prints	17/6	Second Canvas	25/6
New White Shirt		New Rops Ends	10/6
Cuttings	45/6-70/6	Best Clean Bagging	5/6
New Light Prints		Common Bagging	1/6
and Salicins	35/6-40/6		

FOREIGN RAGS.

Prices s. l f Thames

Extra Linens	60/6	Blue Linen, No 1	40/6
White Linens, No 1	55/6	Fustians	12/6
" No 2	40/6	Old Bagging (solid)	6/6
" No 3	30/6	" (common)	4/6
" No 4	20/6	Hemp, tarred in coils	40/6
" No 5	15/6	Hemp Strings	40/6
Gray Linens (strong)	20/6	New Cuttings	
(extra)	30/6	White Linen	70/6
White Cotton, No 1	25/6	Unbleached Linen	70/6
" No 2	20/6	Gray Linen	70/6
" No 3	15/6	Extra White Cotton	70/6
" No 4	10/6	Ordinary	50/6
" No 5	5/6	Certain Cuttings	35/6
White Knitted	20/6	Ray	30/6
Knitted	20/6	Extra Light Prints	20/6
Extra Light Prints	20/6	Unbleached Cotton	10/6
Light Prints	10/6	Oxford	20/6
Dark Prints	8/6	Flannellettes	40/6
Blue Cottons, No. 1	14/6	Blue Cotton	30/6

BALING TWINE.

Hemp	2nd per lb	1st per lb	2nd per lb
Mixed	1st per lb	1st per lb	—

WASTE PAPERS.

In Press-packed bales f.o.r

	per cwt
Cream Shavings	16 10 0
Fine Shavings	16 10 0
Second Shavings	14 0 0
Cartridge Cuttings	10 0 0
Best One Cut	10 0 0
White Woody Shavings	8 0 0
Manilla and Buff Cuttings	9 10 0
Woody One Cut	7 0 0
White Wood Pulp Cuttings	8 0 0
Pam Shavings (Light Colours)	6 10 0
Pam Shavings (Dark Colours)	5 10 0
Ledgers	10 0 0
Heavy Letter	8 0 0
Light Letter	3 0 0
Quire (Best)	6 0 0
Quire (Woody)	6 0 0
Best Pamphlets	6 0 0
White Woody Pamphlets	3 0 0
Coloured Woody Pams	4 0 0
News (Flat)	6 0 0
Crushed News	4 0 0
Kraft Browns	8 0 0
Light Browns	8 0 0
Mixed Browns	4 0 0
Leatherboard Cuttings	7 0 0
Coloured Cards	4 0 0
Strawboards	3 0 0
Mixed Papers	2 0 0

COLOURS. Nominal Prices, nett, delivered in Free Packages

	Per Ton	£ s d
Mineral Black	Per lb	0 10 0
Carbon Black (English)	Per lb	0 10 0
"Carbon Black (American)	Per lb	0 10 0
Ochre (English and Irish)	Per Ton	11 10 0
"Ochre (Spanish), splendid barrels, gross weights		16 15 0
cakes free		15 0 0
Red Oxide, 65%		20 0 0
Red Oxide (Spanish)		17 0 0
Venetian Red		12 10 0
"Burnt Turkey Umber		22 10 0
"Brown Umber		10 10 0
Vandyke Brown Powder		25 0 0
Soluble Brown Crystals		18 0 0
Pulp		10 10 0
Prussian Blue Paste, 30%	Per lb	0 1 0
Prussian Blue Powder		0 10 0
Bronze Blue		0 10 0
Chrome (Pure)	Per Ton	£ 13 0 0
Pure Zinc Oxide		48 0 0
Lithopone, 30%		30 0 0
Paste Black 33%		24 0 0

*According to Brand

ROSIN

Per cwt nett ex wharf London —

	B	F	G	K	N	WG	WW
American	17/	17/6	17/6	18/6	19/	19/6	20/
French				16/	16/6	16/6	19/6

In barrels, tare 20 per cent in casks, tare 7 per cent

SIZING.

Prices are nominally as under —

	Per cwt	12 10 0-12 15 0
English Gelatine		—
Foreign "		—
Fine Scotch Glue		12 10 0-12 15 0
Best Long Scotch Glue		12 10 0-12 15 0
Common Black Glue		—
"Town" Glue		12 10 0-12 15 0
"Bone" Glue		12 10 0-12 15 0
Foreign Glue		—
Bone Glue		—
Gelatine Size		—
Picker Waste	Per ton	£ 45- £ 55
Star Hide (Shavings, No 1)		45- 55
Common Hide		25- 40
Tanners' Wet Pieces		4- 6

STARCH.

Delivered.

	£ s d
Malta-Crisp	17 0 0
Pearl	17 0 0
Powder	17 0 0
Special (1 cwt. bags)	25 0 0
Farina-Special	27 10 0
Prima	28 0 0
Rice-Granulated (in bags)	28 0 0
Powder	28 0 0
Dextrine-Superior	28 0 0
Malta	28 0 0

German Paper Profits.

The report of the Wintersche Papierfabriken of Hamburg shows gross profit, including carry over, for the year 1920-21 amounting to 3,993,877 M. The standing charges are nearly double the previous years and depreciation has also been doubled. From the net profit of 1,491,935 M, 100,000 M are paid as bonus to the directors and staff and 152,135 M to the expert overseer and 10 per cent dividend plus a 5 per cent bonus is paid to shareholders.

The report states that after the withdrawal of control the normal peace conditions were quickly resumed. The demand was very good, especially as much of the product went abroad, but in the second half of the year the market fell quite flat. Future course of trade is uncertain.—M.A.

Paper Mills as Open Shops.

The International Paper Co., the big United States news print concern, stood out of the recent wage settlement with the unions and is going ahead on the open shop basis. All the skilled labour needed is said to be forthcoming, and eight of the company's mills are now operating. Four hundred tons of paper a day are being turned out and the production is shortly expected to reach the figure prevailing prior to the strike.

According to a press report the Anglo Newfoundland paper mill, Grand Falls, Newfoundland, is in full operation as an open shop. The operatives went out on strike May 11th, but returned at the wage rates and under the conditions offered, which approximates a reduction of 20 per cent in the wage scale.

Freemasonry.

St Bride Lodge, No. 2,817 celebrated its 21st anniversary at the Café Monico, Piccadilly circus, when Mr G. L. Reveirs was installed Master by Mr Sydney H. Caslon. The following were appointed officers—Messrs G. F. Wilbraham and W. J. Starkie, Wardens, Alderman Sir G. R. Blades, M.P., Treasurer, C. J. Drummond, M.B.E., Secretary, Geo. W. Jones, Director of Ceremonies, I. W. Oxley Almoner, F. H. Stollard and L. J. Day, Deacons, E. S. Iendrum, Inner Guard, O. Lehmann and A. Beech, Stewards, W. Wright, Organist.

A handsome banner was presented to the Lodge by Mr Sydney H. Caslon, in commemoration of the 21st anniversary. The Rev. O. C. Cockren, in dedicating the banner, gave a discourse on St Bride or St Bridget. Among those present were—Sir J. Somers Vane, I. A. Symmons, P. G. Mallory, Maurice Beachcroft, Algernon L. Collins, Walter H. Glazier, W. H. Pocklington, Sir Robert Baird and Mr W. Bel-Burrowes.

New British Patents.

Applications

British Cellulose and Chemical Manufacturing Co., Ltd (American Cellulose and Chemical Manufacturing Co., Ltd) Treatment of cellulose derivatives 25,562

Chiba, T. and Kumagai, S. Process for recovery of material for manufacture of paper 25,435

Dreyfus, H. Treatment of cellulose derivatives 25,781

Jarvis, H. C. Manufacture of wall paper 25,594

Specifications Published 1920

Bronnert, F. Manufacture of viscose silk 169,190

Howorth, F. W. Process for the preparation of alumina from clay 169,301

Kay, H. Means of and method for removing water from rotary driers 169,364

Muller, M. Process for the manufacture of artificial threads, ribbons, films or sheets from viscose 145,627

Cellstoffabrik Waldhof Process for the treatment of wood and other cellulose containing materials 147,232

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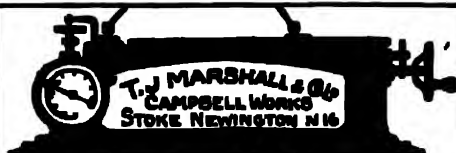
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Paper Revival in France.

There has been a marked improvement in nearly all branches of the French paper trade. The crisis may be regarded as finished and continued improvement may be considered certain.

News of the restarting of mills and increase of production arrives from all parts says *La Papeterie* and some mills have their hands full, the finer qualities of paper being in great demand. In fact, this class of paper has not suffered much in the crisis.

Prices are continually growing more settled and have reached the limit both for French and foreign paper manufacturers having made all possible concessions. There are yet stocks and some dealers do not hesitate to sacrifice it at ridiculously low prices for the sake of cash.

News print the eternal nightmare of French English and Italian trade has fallen slightly. On the contrary, laid paper has a tendency to rise.

The rag and waste paper trade of Marseilles at a standstill for some months is now improving.

Appeal for More "Welfare."

In view of the very critical state of the industrial world to day an earnest appeal for the extension of the welfare movement is made by the Council of the Industrial Welfare Society. The appeal takes the form of a manifesto which has been issued to the Press over the signatures of the members of this very influential council, including Sir William A. Waterlow and Mr G. A. Isaacs. After indicating the need for, the nature of and the possibilities that lie ahead in welfare activities, the appeal concludes as follows—

'Although the promotion of mutual co-operation along the lines we have indicated is the concern of those actively engaged in production yet we believe that a heavy obligation rests upon shareholders, bankers, professional men to take a part in extending this movement. The Industrial Welfare Society, which during the last three years has made a deep impression upon the minds of men not only in this country but throughout the world, exists for the purpose of fostering the work to which we have referred. We as members of the council, feel that the time has come when the burden of maintaining the organisation should be shared by all who have at heart the future well being of industry. The Society propounds no pedantic theory of economic control, but attempts to deal in a practical way with industrial problems as it finds them, bringing to bear upon their solution a new spirit, or rather, the remembrance of an old world spirit of comradeship and humanity which, in an age of material progress, had almost been forgotten."

Mortgages and Charges.

WALLASEY PRINTERS, LTD—Issue of September 21st, 1921, of £400 debentures part of a series already registered.

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The Paper Trade Review

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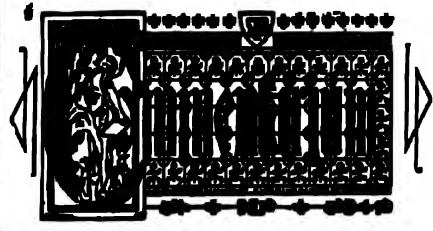
[REGISTERED AT THE GENERAL POST OFFICE AS A NEWSPAPER FOR TRANSMISSION IN THE UNITED KINGDOM]

FORTY-SECOND YEAR.

VOLUME 76
NUMBER 17

LONDON OCTOBER 21, 1921,

PRICE SIXPENCE
EVERY FRIDAY,



THE recent improvement in trade has been well maintained but it cannot be said that there has been any distinct acceleration in the demand for paper. The situation is complex and it well behoves us to guard against undue optimism. Judging from reports to hand from various quarters it appears that while in certain industries as cotton and wool for instance, trade is becoming much better and unemployment is decreasing, in others such as engineering building and the chemical industries, the condition is actually worse than hitherto. Under such circumstances, it is beyond the ordinary individual to judge whether the present slight improvement in our own industry and the allied trades is a mere temporary phase or the commencement of a slow but steady return to something like normal.

FROM time to time we have insisted that there can be no approach to normal so long as other countries are in a state of absolute chaos. For all her vaunted prosperity, Germany is on the verge of a breakdown as disastrous as anything that has occurred in Russia or elsewhere. Meantime those patriotic zealots whose only cry was "make Germany pay" are engendering the doubtful

satisfaction of seeing the reparations come along in the form of paper, along with other goods.

THE future course of industry and trade of this country depends entirely upon rectification of the international rate of exchange, and this in itself depends upon the rectification of the internal conditions of the countries concerned. When we have finished our experiments in trade obstacles and so called safeguards, we will possibly come to realise that it is the policy of making and keeping other countries bankrupt that is mainly responsible for our own approach in the same direction. Politics are running the show instead of economics and, in our opinion, that just about sums up the whole situation.

THE following extract from our notes of December 17th, 1920, is well worth repeating in view of the trend of events since that date. Commenting on German competition we wrote: 'Shortly, it will be the economic condition of Russia which will be the source of concern.'

Some readers prefer to talk in terms of anti dumping or official restriction, and without recognising the intimate connection between war debt, economic condition and rate of exchange, they press simultaneously for a strangle hold on Germany and the exclusion of German goods. The rate of exchange simply means the value of money, the heavier the debt and the more deplorable the state of a country, the less the value of its money. . . . If we want completely to undercut English mills, the best thing to do is to make conditions in Germany so intolerable that the mark will go down to zero." Since

that date we have had experience of the strangle hold the workings of reparation and the fall of the mark and the opinion of the business world is veering round in favour of a very different policy

ANNUAL RIVE offers of paper and quotations for making are being sent out from Austria. As the reparations duty does not affect consignments from that country, the exporters claim a big advantage over Germany. We have often wondered whether even in the case of Germany the reparation clause always comes into effect. So far as we can see there is nothing to prevent paper or other goods finding their way into England by a circuitous route. Fortunately for our own industry the uncertainties and hindrances to foreign import are so great that much of the advantage of low price is at once neutralised. Paper buyers of to day cannot wait or commit themselves for so long a period as two to three months ahead.

SINCE the hardening of krafts took place there has been an improved demand, due, no doubt to diminishing stocks and better trade generally. Sulphite wrappings have all become suddenly firm and a hardening process is quite likely to set in. English mills are making kraft wrapping at a lower price than the imported variety and there is every inducement for users to patronise home mills especially as the quality is quite up to standard.

CZECHO PAPER EXPORTS FREE—By a 10 cent decision of the Czecho Slovak Ministry of Trade paper and paper goods, but not pulp will from October 1st be released from the payment of export duties and from the hitherto existing export formalities (license, etc.) with the sole proviso that exporters must report to the Ministry the value of the merchandise exported.

Oil Fuel Results.

Messrs Cadbury Bros, Ltd, adopted oil fuel at their Bournville Works during the coal miners stoppage and they have now published a leaflet indicating the results. Bournville is within easy access to collieries and allowance must be made for that fact in considering whether oil fuel is economical or not.

Messrs Cadbury say - "From experience and careful tests made it has been found that to get the same evaporation of water approximately two tons of coal are required against one ton of fuel oil. Coal burning incurs certain charges which do not occur with oil such as ash handling tip charges additional flue cleaning repairs to mechanical stokers, and extra labour on boilers. Oil fuel burning is an easy operation. It is a question of turning a valve as against mechanical stoking or shovel firing. Taking these items into consideration, the short experience of Bournville would go to show that the price of fuel oil to compete with coal say at 32s per ton would have to be approximately £3 10s per ton (both prices including delivery at works).

Fuel oil has also other advantages over coal in addition to the above. The boiler house can be kept very much cleaner, less smoke passes into the chimney stacks for there is more perfect combustion, and practically no smuts are discharged into the air. Again no large coal dumps are needed and coal dust liable to be blown where it is not desired is avoided.

The practical outcome is that 50 per cent of the boilers at Bournville have been converted back to coal burning but the whole of the installation is being preserved intact and half of it is still in use as it was found that an increased evaporation of 15 per cent was obtained from each boiler on oil fuel.

An important conference of paper men representing Finland Scandinavia and Canada is, we understand, to be called in Copenhagen shortly.

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National Council Meeting

The twenty-first meeting of the National Council was held at the Council Chamber, 11 King's Bench walk, Temple E C 4, on Thursday, October 13th, when various subjects were discussed.

The position of the trade generally with regard to the proposed revision of railway rates and the proposed new classification were under consideration, and the steps which had been taken by the special committee appointed to examine this subject were endorsed by the Council.

An interesting letter was read from the Canadian Chamber of Commerce in London dealing with the question of the export trade.

The most careful consideration of the Council was given to the position of paper in reference to the Safeguarding of Industries Act, and unanimous agreement was reached as to the policy to be pursued by the Association.

The question of standardisation was also once again under consideration, and it was agreed to inform the Federation of Master Printers that the Association was ready to discuss the subject with them, and that a committee had been appointed to do so.

Progress was reported with regard to the various insurance schemes which had received the attention of the Council at their last meeting.

A report was laid before the meeting showing the position of the negotiation now proceeding with the shipping companies as regards the adoption of ton weight rates.

The revised Trade Customs were again under consideration, and it was arranged to

meet the Papermakers Association again on this subject at an early date.

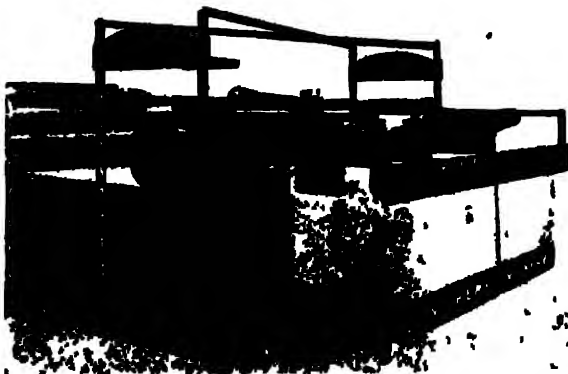
A report was laid before the Council on the general position as regards wages.

The National Writings and Printings Section and the National Wrapping Paper Section also held meetings on the same day, and it was arranged that the next meetings of the National Council and of the National Sections should be held at 11, King's Bench walk, Temple, E C 4, on Thursday November 10th.

Papermaking by Film.

An interesting demonstration of paper-making by means of the cinema was given at the headquarters of Messrs John Dickinson and Co, Ltd, 65, Old Bailey, London E C on Tuesday and Thursday of the past two weeks. The moving pictures illustrated the whole process from the arrival of the raw material in the form of esparto and wood pulp to the sorting of the paper in the mill. A number of visitors were accommodated on the second floor and watched the demonstration with great interest. Every section of the Croxley mill was represented on the screen, which, although a miniature one reproduced the scenes with perfect clearness. The visitors saw the pulp being treated in the beaters and then passed on to the wire through the machine, and finally reeled off. The process of coating including the hand process and the festoon drying, was also demonstrated, the programme ending with an aeroplane view of the mill.

In addition to the cinema film there were on exhibition samples of the materials used in the manufacture of paper, including rags, esparto and wood pulp, and their appearance as half stuff. A hand made mould and dandy roll and a section of wire were also on view while Mr F Heckford, the mill chemist was present to throw light upon any aspect of papermaking which visitors desired.



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Paper Box Manufacturers.

Annual Meeting of Federation in Bristol

The British Paper Box Manufacturers Federation held their annual meeting on October 13th at the Royal Hotel Bristol. The previous evening they had been entertained to dinner by the Bristol and West of England Association of which Mr I G Mardon is president and there was a complimentary lunch on Thursday morning at which speeches expressive of mutual goodwill and anticipatory of a brighter industrial future were made.

Mr. A H Cullen (Nottingham) was re-elected president of the Federation at the business meeting and Messrs W H Arnstead (Manchester) and Philip Robinson (Chesterfield) vice presidents.

Mr E G Mardon welcomed the Federation to Bristol and said their deliberations would no doubt be helpful to them as manufacturers.

The President returned thanks for the way in which they had been received, and dealing with the problems of present day business said their trade had had to face problems such as probably no class of trade had ever had before. They were getting over them however, and there was no cause for pessimism or panic. There was a great deal of grumbling among business men over taxation and material loss as the aftermath of the war but let them remember the lads who endured all, and gave even their lives "over there, and they would then shoulder their burdens and carry on more cheerfully for the rehabilitation of the commerce of the country.

The secretary, Mr C J Healy, gave a report on the Trade Boards question, urging that they had been of real value and regretting Ministerial interference with their functions.

Mr Philip Robinson dealt with the question of railway rates and said they were

securing certain concessions, and hoped for more.

Mr W Culross (London) moved a resolution which was adopted protesting strongly against the obstruction and interference with business brought about by the withdrawal of week end postal facilities, and, without asking for Sunday deliveries, demanding the resumption of Saturday and Sunday collections and immediate transmission.

Mr Goodwin gave a valuable paper on the importance of costing, urging the need for standardisation throughout the trade since it would help them greatly in meeting labour troubles over wage questions.

Finland & Papermaking-Machinery.

The Finnish Advisory Economic Committee in the course of a report presented to the Council of State of Finland deals at some length with the question of the promotion of the export trade of the country. Concerning the big industries, the committee says that many industrial undertakings do not possess sufficient means at their disposal for the purchase of machinery and for the reconstruction of their works under the prevailing low level of the currency. It is therefore suggested that the Government should support these industries for a period of five years by permitting them to import papermaking machinery free of duty, and that the Customs duties should be refunded on other machinery required by the more important industries of wooden manufactures, in so far as such machinery is not procurable in Finland.

As a result of the reduction of the news print price to 4 cents a lb f o b mill, many newspapers in the United States are reducing their prices from 3¢ to 2 cents and a number of new papers are starting up.

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Australian Paper Tariff.

Senate Decisions

A report of the proceedings in the Australian Senate on August 31st deals with the consideration of the Tariff in Committee.

On division 13 paper, stationery, on item 334, paper (a) pulp for the manufacture of paper, free, free and free (b) shaving and waste paper for the manufacture of paper, free, free, and free (c) newsprint, not glazed, mill glazed, or coated, in rolls not less than 10 in wide or sheets not less than 20 in x 25 in or its equivalent, free, 60s and 60s Senator Gardiner moved the erasure of words not glazed, mill glazed or coated saying that he desired to bring news print under this heading.

Subsequently the amendment was withdrawn, and the Minister moved that the duties should be fixed at free 40s and 40s.

Senator Vardon supported the retention of the present duty, so as to enable England to rehabilitate her paper trade.

After further discussion, the Government's proposal to reduce the general tariff to 40s per ton was agreed to by 17 votes to 8.

The intermediate tariff 40s was agreed to. On the sub item printing paper not glazed or unglazed, Senator Gardiner (C) moved that the duties should be as on news print, free, 40s and 40s.

This was agreed to.

Bags, net, 12s, 13s and 14s per cent or an alternative duty of 30s, 35s and 40s per cent, was agreed to, and the item was passed.

On item 336, parchment, cut and uncut, 10, 15 and 20 per cent, Senator Elliott (N) moved that it should be made free, but the members laughingly refused to listen to the proposal, which, they said, was purely for the benefit of lawyers.

The remainder of the division was agreed to and progress was reported.

It should be added that the House of Representatives are not agreed upon the Senate amendments, and a large body of opinion considers that a preference of at least £3 should be extended to Great Britain in the

matter of news-print. The question is now under discussion between the House of Representatives and the Senate, and the decision is likely to be known within a few days.

Paper Mill Theft.

Conviction at Darwin

Serious charges of stealing and receiving six reams of paper from the Darwin Paper Mill were heard at the Darwin Borough Police Court last week. Robert Isherwood and Wm. H. Sowerbutts were charged with larceny of the paper and John Bibby a signalman with unlawfully receiving the goods.

Mr C. St. J. Broadbent on behalf of the Darwin Paper Mill Co. said the thefts were regarded with the utmost seriousness by the firm.

In a statement which was read, by Mr. Broadbent, Bibby said Sowerbutts told him he could get paper cheaper than he could buy it at the shops and knowing that he was foreman he thought he could get it cheaper through working at the paper mill, so he told him to get some. After they brought the first lot he gave Sowerbutts 15s. Later he told him to get him some more and the same sort.

Mr William Costello the manager of the paper mill, said the value of the paper to the company was 36s. They did not sell paper to their employees. Isherwood had been employed by the firm about 13 years and Sowerbutts about 8 years.

The magistrates adjourned and on their return the Chairman (Mr J. Holden) said the feeling of the bench was that there was a temptation at the beginning of the business and that Sowerbutts and Isherwood were induced to get the paper. Therefore they thought Bibby was the most guilty party and he would be fined £15 and the others £10 each.

No one can learn to assume responsibility unless he is made to assume the consequences of his acts.

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The Premier Paper Mills, Ltd.

New South African Enterprise Starts Up

In our issue of October 7th we referred to the prospects of the manufacture of paper in South Africa. The Consulate of Finland at Cape Town supplied a part of the information contained therein. We are now advised by Mr Denham Fulton, the managing director of the Premier Paper Mills, Ltd., who is at present in this country, that some of those statements are incorrect. We regret that the information contained in the article referred to did not represent the facts and we are glad to correct the statements made.

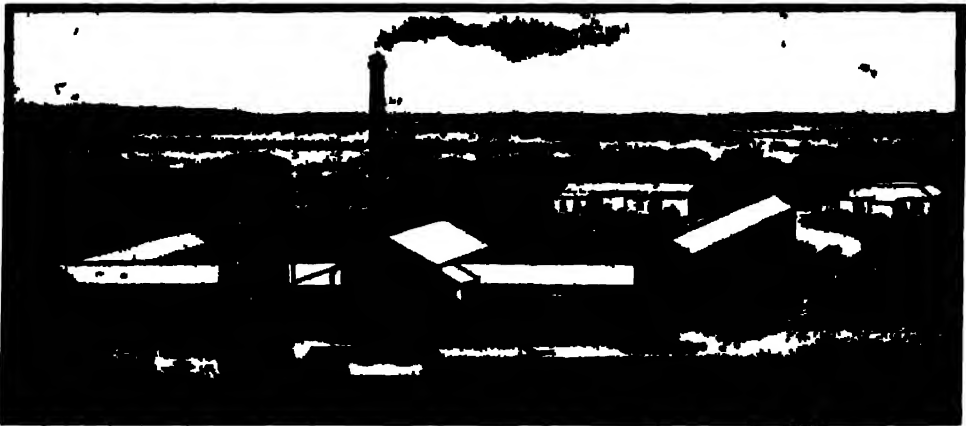
The statements in error were as follows,

plant the output can be made to supply the whole of the Union's requirements of this article. The whole of the papermaking plant was supplied by the well known papermaking machinery experts, Messrs J Milne and Son, Ltd Edinburgh.

The progress of this new enterprise will be watched with great interest. It starts up under good auspices, the authorities in the Union being naturally anxious that the industry should succeed.

With the advantages possessed, it is claimed by the directors that they will be able to compete with any similar imported paper, not only in the inland towns but also at the nearest (home) port of entry into the Union which is Cape Town.

The Premier Mills occupy a very suitable site for the manufacture of paper, and cover an area of 20 acres of freehold ground which



THE PREMIER PAPER MILLS, KLIP RIVER, TRANSVAAL

viz. 1st 'No (paper) mills in South Africa and "That the first paper mills will shortly begin production" 3rd "At Germiston 4th, 'From raw materials obtained chiefly from South America, and 5th, 'News print costing £30 per ton in Cape Town'.

We shall correct the first four statements in the course of this article, but with regard to the fifth and last we are informed that news print was offered delivered in Johannesburg in August last at less than £30 per ton.

We are pleased to be able to present in this issue an illustration of the first paper mills to make paper in South Africa. The Premier Paper Mills, Ltd., which was formed in July, 1918, erected its mills at the Klip River, 18 miles distant from Johannesburg, and on the main trunk railway line leading to every part of the Union and Rhodesia.

The production of wrapping paper was commenced early in April of this year, and large quantities have already been turned out. The capacity of the Premier Mills is at present from 1,600 to 1,800 tons per annum, but by increasing the drying capacity of the

allows ample room for expansion. The Klip River passes the company's property, and the railway station is within half a mile of the works. A further natural advantage is the proximity of the coal supply, which is within 20 miles of the mills, the fuel costing as low as 20s per ton delivered to works.

As a result of the experiments carried out since the mills started operations suitable raw materials have been found which will produce a wrapping paper in every respect equal in quality to the wrappings imported into the country from whatever source.

It is interesting to learn that practical papermakers are in charge of the mills, the works manager having had an experience of over thirty years in paper manufacture, twelve of these as manager of a home mill making similar paper to that turned out on the Klip River. The staff consists of practical men, imported from England and elsewhere, and there is also an ample supply of trained natives, whose employment at low wages, when compared with the white men's earnings conduces to the economic working of the mills.

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The Premier Mills are the only paper mills in South Africa, and we are informed that several years must elapse before any competitive mills can come into active operation against them. In view of the fact that their mills are capable of supplying the whole of the Union's consumption of wrapping paper, they are turning their attention to the manufacture of paper bags of every description and machinery for this and other purposes is being shipped in due course.

It must be obvious to all those who have given the question of South African industries any considerable thought, that such an industry as wrapping paper manufacture can only depend on its own country for its markets. Many years must elapse before it can possibly hope to export wrapping into Europe, and be able to compete with the home products. In this connection the directorate of the Premier Mills has acted very wisely in erecting their mills large enough for the requirements of their country.

From what we have learned of this company's future extension programme, it must be gratifying to all those connected with the concern to feel that those directing its affairs are men of wide vision and progressive ideas.

A Quaint Appeal.

Quaint communications frequently reach Mr A W Foster, the secretary of the Papermakers Association and one which will be hard to beat has just come into his hands. It is in the following terms, which explain themselves --

'Your Highnesses, Sirs, - Would your respective Highnesses pardon and forgive a poor orphan that has been left destitute, parentless and friendless almost since my birth, to the merrys of the world. I am a machine assistant, could labour, assist or help in any part of the mill. Would make myself general usefull.'

Enclosed with this letter was another which set out in greater detail and redundancy the same pathetic fact—a sort of elaboration of the original theme which left nothing more to be said on the subject.

Lack of enthusiasm, consequent on business depression, has led to the cancelling of the autumn joint conference of the American Pulp and Paper Association and the Mill Superintendents' Association.

The Scottish Paper Trade.

(By Our Edinburgh Correspondent.)

BUSINESS is moving very slowly in the Scottish paper trade and papermakers are not a little anxious about the prospects of business.

WHOLSALE stationers, however, report a movement of stock, but this has not yet been sufficient to make any impression upon the mills which are now for the most part only running partially.

UNEMPLOYMENT exists among the work people in the Scottish paper mills, although it is mostly of the part time character.

PAPERMAKERS are doing their utmost to absorb as much labour as they possibly can, but in view of the poor demand for paper and the heavy costs of production there is a limit in this direction.

INVERSEA PAPER CO (LTD) Musselburgh have formally opened the commodious two storey institute which as a war memorial they have provided for their workers along side the fine bowling green which was presented to the workers by the firm thirty years ago. The building comprises library, billiard room, reading rooms, and other accommodation. Mr Walter Cranston, secretary of the company who presided at the opening ceremony, mentioned that 18 workmen employed by the firm had fallen in the war. Ex Provost Will Constable, Musselburgh architect of the building, presented the ceremonial key to Mr A W Smith, managing director, who opened the building and led the company on a tour of inspection.

THE Imatra group of rapids constitutes one of the largest sources of water power in Finland, and the most important on the River Vuoksen between Lakes Saima and Ladoga. A big hydro electric scheme is being proposed for the utilisation of the power here represented. It is estimated that the total cost of this project, including the land that has to be purchased, will amount to 267,000,000 Finnish marks, and that it will require eight years for completion from 1922.

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SAMPLES AND QUOTATIONS ON APPLICATION.

Bamboo for Papermaking.

Mr W Raitt, Replies to Some Queries

Following the reading of the paper by Mr W Raitt before the Society of Arts in May last on the subject of bamboo as a raw material for papermaking Mr Hamel Smith, editor of *Tropical Life*, put forward some queries in his paper relating to bamboo. These appeared in the May issue of the journal, and Mr Raitt has since answered. For this reply which appears below we are indebted to the editor of *Tropical Life* for an advance proof.

Bamboo is likely to be a very important factor in paper manufacture in the future and from various directions the question of its utilisation is being considered.

Information Wanted

Mr Hamel Smith is anxious to elicit information as to the practicability of cultivating and employing bamboo for papermaking and with this object he put the following questions—

(1) India, claims Mr Raitt could produce pulp for the whole world. Does this mean (practically) for ever from the areas now existing or must fresh planting take place?

(2) In the same way as the spruce and other forest trees recede into the background and thus increase transport costs surely with bamboos it will be the same even if only for the three to five years during which the spots nearest to the factory are "resting."

(3) Arising out of the latter portion of No 2 how long can a root or a stool in a bamboo forest be relied upon to produce fresh culms for cutting without becoming useless either through death or exhaustion and thus yielding weak and useless culms? When such roots are condemned can they be blown out of the ground by explosives, or how can they be effectively removed in order to introduce a new root and thus avoid the spot and finally the area becoming wasted? When pulp is made from those bamboo forests on a large scale will it (or will it not) pay to keep the

output of culms per acre up to the highest possible level in order to decrease the cost of transport?

(4) Having decided to erect the factory, how much would the pathways (to cut the bamboos) and the roadways (to transport the culms) cost per hundred or thousand acres, and so in turn to the factory itself, because our next question is, what would the cost of a factory be (to make pulp not paper) erected in or near a forest per thousand acres of bamboo to be worked?

(5) Providing that pulp only (not paper) is to be made in such factories, would it pay to erect several smaller factories, one to each 5,000 or 10,000 acres, or only one large factory for the whole forest?

(6) All of which queries have as their *raison d'être* the idea as to whether the planting out and cultivation of poor land (for other crops) or otherwise suitable areas for bamboos can ever be carried out to pay. Only in the East, French or British India, etc., can forest supplies be considered. If paper or pulpmaking from bamboo is to become general, most of our enquirers not being in India, claim that the bamboo must be planted in the same way as sugar cane. Thus we are anxious to ascertain if this can be done to pay?

(7) Do Mr Raitt's figures as to a profitable price for the pulp (four to five times the old rates for £9 to £10 for chemically prepared and £5 10s to £6 for mechanically prepared) still hold good to day, in face of present freight charges and costs of labour and living in the tropics as elsewhere? This is a most important point for until the cost price delivered (and also the selling price) be ascertained no sensible man will want to start. How can he do so since without such data no one can say whether paper pulp making from bamboos will pay or not, even if we know what the factory costs per thousand acres of forest growth or area planted?

Eight Million Tons per Annum.

Mr Raitt answers the above questions in the following terms:

In the latter part of 1919 or early in 1920, I do not remember the precise date when the shortage of pulp was being actively discussed in the London Press, a letter appeared in *The Times* from Sir William Schlich, late Professor

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of Forestry at Oxford and formerly Inspector General of Forests in India. In his letter he referred to an area known to him measuring about 18,000 square miles which was practically, one solid block of bamboo.

I have been through that area, and can confirm Sir Williams' statement. If fully exploited that area could yield 8,000,000 tons of pulp per annum (the world's consumption being about half as much again, or 12,000,000 tons per annum) and yet this area is but one of several.

As if to answer your fourth query concerning roads and transport, it happens that the big area is intersected with a network of rivers and creeks which supply the roadways you ask for. Dragging paths to the river-banks are a negligible item, they are made by the bullocks themselves, as and where required.

With resources like these you will understand that we are not interested in the planting of bamboo or its intensive cultivation. It will be a sorry day for the paper industry when it has to come down to cultivating its own raw material. It has never done so yet and I do not think that it ever will stand cultivation costs. Its foundation is *was* either Nature's or man's for which there is practically no other use nor competition. Even spruce when introduced for wood pulp in the seventies was a waste. The present troubles of the wood pulp industry are largely due to its having ceased to be a waste in the sense implied.

Provided the root stocks are not weakened by over cropping they go on reproducing throughout the seeding cycle of the species, which may be anything from thirty to sixty years. In the case of bamboo growing in clump formation, with rotational cropping fixed at say four years apart you cut one fourth of the clump each year. Species growing in dense thickets covering the whole ground would be cut in swathes through it, the width of the swathe and of the masses left between them being regulated according to the rotation fixed on. You do not therefore abandon an area after cropping, for the whole period of rotation.

Prices and values are ticklish subjects to tackle under the present vague conditions of industry but I shall risk putting the cost of a

complete plant for 10,000 tons unbleached pulp per annum erected in Burma at £300,000 to £350,000, working capital included. The estimated costs of production given in my lecture were not "four to five times" the old (pre-war) rates but only about twice, viz £16 to £18 per ton unbleached, f.o.b. British ports. Freight is considerably down since that estimate was made. Selling value I did not refer to. There would naturally be as much as the seller could get and the buyer be willing to give over £16 to £18.

Varnishable Chromo Paper.

A chromo paper, having been rejected because it became yellow when varnished, was submitted to the *Paper /etting* by the maker, who was very confident that the fault was not in the paper with a request to learn the reason for the discoloration. He received the following interesting reply:—

The yellowing is not due to the varnish being faulty, but to the coating being too soft so that the varnish soaks through and allows the yellow tone of the raw paper stuff to show up. Even if the casein size has made the surface seem hard, the paper is not fast to ink, which soon sinks in. Five per cent of talc and an equal quantity of wax solution must be added to the coating material, machine samples must then be tested by taking a little varnish on the finger and passing the same lightly over the surface. If this spot still appears yellowish size and wax must be added to the coating material till the varnished sample remains white.

To make the finished paper usable, treat it with a weak solution of waterglass on the varnishing machine and then varnish when dry the surface will then remain quite white. A weak boiled starch solution may also be used but waterglass works better and quicker, only it is necessary to see that the rubber rollers do not become hard, and they must be washed with hot water from time to time. Hard and fast rules cannot be given, but these things must be tried out in practice.—M.A.

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Pulp Contract Action.

Rolph, Darwen and Pearce v. Aktiebolaget Svensk-Engelska.

In the King's Bench Division, on Oct. 13th, Before Mr Justice Greer, Messrs Rolph, Darwen and Pearce, pulp merchants, of 7b Finsbury pavement London, were the plaintiffs in an action claiming damages against the Aktiebolaget Svensk Engelska Oceanhandelsaktieselskap, timber exporters of Stockholm for breach of contract to supply 1,000 tons of karbula prime white mechanical pulp for shipment in August at £17 12s per ton c.i.f. Grimsby 60 per cent air dried.

The contract was admitted but the defence was that at interviews on August 25th and September 10th 1920 between Mr Pearce and Mr Darwen, of the plaintiffs firm and Mr Griffiths on behalf of the defendants it was agreed that the defendants should substitute for the first contract another to supply 1,000 tons of pulp of equal quality in September. They said this they had always been willing to do, but that the plaintiffs repudiated the agreement and refused to take it.

Mr Stuart Bevan K.C. and Mr G. Wrightman Power represented the plaintiffs and for the defendants Mr I. D. Mackinnon, K.C. and Mr S. I. Porter appeared.

Mr Stuart Bevan said the contract was for the sale and delivery by the defendants who were Swedish timber shippers to the plaintiffs of 1,000 tons of wood pulp for shipment August, 1920 at £17 12s per ton c.i.f. Grimsby the pulp to be 60 per cent air dried. No deliveries were made under the contract. In July the defendants wrote that they were unable to deliver, and suggested a figure which they should pay as damages. The defence now set up was that in August, 1920 there was a subsequent contract entered into between the parties under which it was agreed that in substitution of the original contract the defendants should ship by the end of September 1,000 tons of pulp of equal quality or thereabouts but that the plaintiffs repudiated the agreement. The answer to the defence, however, was that there was no

such agreement, and that if there had been it was a term precedent that within two or three days of its making the defendants should give plaintiffs notice of the quality they proposed to ship in substitution, and the name of the ship and that they did neither. In these circumstances, a few days before September the plaintiffs refused to have anything further to do with the matter. Plaintiffs said the defendants never were ready to fulfil the substituted contract.

Counsel said the correspondence showed the defendants offered to pay £2,000 damages on the first contract or said the plaintiffs might sell against them. After that there was a meeting between Mr Pearce and Mr Griffiths representing the defendants with regard to another supply in September, but apparently the latter went for a holiday and as the matter dragged out until September without anything effective being done the plaintiffs repudiated as, he submitted, they were justified in doing.

Mr Stuart Bevan said Mr Griffiths at first said that the plaintiffs could have Norwegian Canadian or Swedish in substitution but he never gave them any intimation of the brand or quality he proposed to substitute and in the circumstances the plaintiffs were compelled to repudiate. The difference plaintiffs were claiming was that between £17 10s per ton and £20 7s at the time of the failure in September.

Evidence for Plaintiffs

Mr Julian Darwen senior partner in the plaintiffs firm, gave evidence in support of counsel's opening and said that when the defendants first failed to complete the contract they (defendants) offered them another pulp 45 per cent air dried but his firm intimated that they should require 1,333 tons in substitution if that was the quality offered. On August 25th Mr Griffiths called upon him and said the matter had been put in his hands, and after discussing the question at 15, he said he would provide a satisfactory substitute. Witness told him that it was the pulp they required and that as the time was getting on they should receive it as speedily as possible and Mr Griffiths asked for a few days to look round. Nothing was said as to any difference in price, and they made it clear

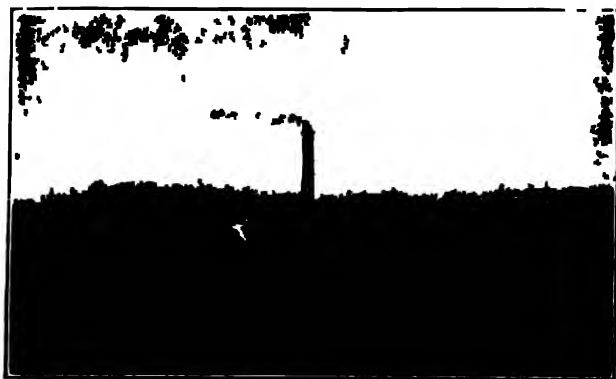
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to Mr Griffiths that unless they got the pulp quickly compensation would have to follow. They heard nothing from Mr Griffiths and finally intimated to the defendants that they should have to repudiate. Mr Griffiths had never supplied them with any brands or said what pulp would be substituted. Finally on September 29th there was an interview with Mr Griffiths and Mr Fawcett when the former said he had bought 1000 tons to fulfil the contract and their refusal to take it would cause him serious loss. Witness said he asked him why he had not told them this before. He further inquired the brand where it was, and offered to arrange the matter if he could give them delivery in a few days. Mr Griffiths declined to give him the brand and said it was useless as they had refused to take delivery and broken their contract. He said there was nothing for it but arbitration.

In reply to Mr Mackinnon for defendants witness produced the contract with their buyers Messrs Peter Dixon and Co who took the 1000 tons in question in settlement of a claim they had against his (witness's) firm for pulp at £15 7s per ton but that was the price for 50 per cent pulp and as the pulp now in question was 60 per cent the quantities would have to be considered and the transaction show a profit to his firm.

Mr Arthur Wm Pearce the previous witness partner gave corroborative evidence. He said on September 10th he had an interview with Mr Griffiths and complained to him of delay in giving the names of the pulp he proposed to substitute. He also told him that it was useless going on in that way. Mr Griffiths complained that they were unreasonable. Witness told him that they did not wish to be unreasonable but were not convinced that he was taking the steps necessary to get speedy delivery of the pulp. He informed Mr Griffiths he could have until the end of September to fulfil the contract. Although he doubted his ability to do so witness told him that he must at the same time give them the brand of pulp he proposed to substitute for submission to their customers and names thereof. Mr Griffiths said he was prepared to give them a Norwegian brand of pulp, but he never informed them either of the ship or brand of pulp, and finally his firm had to repudiate the contract and claimed damages.

He declined at the final interview to give them these particulars and said there must be an arbitration.

Mr Harold Lone assistant manager of the wood pulp department of Messrs Salvesen and Co, said Norway sent 3/5ths of the mechanical pulp sent to this country and his firm were agents for the company responsible for the despatch of 60 or 90 per cent of such pulp from Norway. In September 1920 there was not much demand in his country for pulp as British firms had covered their requirements at high prices. He said the price at that time was £16 per ton fob for 50 per cent in dried and £19 4s for 60 per cent.

In reply to Mr Mackinnon, for defendants he said the price was now £4 10s per ton.

Friday's Hearing

On Friday Mr Gen Henry Wilkinson chairman of the National Paper and Pulp Co Ltd said his company were large users of mechanical pulp. In September 1920 it was impossible to obtain mechanical pulp there was none on the market and they had to purchase wood pulp boards as a substitute. They paid for these £31 per ton cif which was equivalent to a figure of £19 per ton for 50 per cent air dried mechanical pulp. Had it been 60 per cent the figure would have been £22 16s per ton.

In reply to Mr Mackinnon witness said there were no sellers at this time. The Scandinavian people were trying to hold up the market. They did not succeed and subsequently pulp came down very rapidly.

Mr H A R Butler pulp department Messrs Andrews and Co stated that the price of pulp in September 1920 was £17 per ton fob.

Cross examined he knew of no actual purchases or sales in September.

This was plaintiff's case.

Mr Mackinnon K C, for the defendants, called Mr Nicol chairman of the British Wood Pulp Association who said the price in July was £17 per ton fob which was the highest price he had ever known. In August there was a fall in the market, and it came down to £14 10s fob and £15 15s cif quality 50 per cent. In September nothing was doing in sales of pulp but if his firm had had a call for 1000 tons they could have got it for any buyer.

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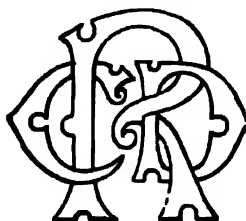
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Mr Alfred I. Griffiths, pulp merchant, stated that at the material time he was manager of the wood pulp department of Messrs Price and Pierce well known wood pulp merchants. In August, after the difference between the parties had arisen, he had an interview with plaintiffs and asked that the Anglo Swedish Co should have time to look round in order that they might substitute other pulp. Plaintiffs were reasonable and consented. Subsequently on September 10th he saw Mr Pearce, of the plaintiffs firm, and arranged that he should substitute another pulp equal in quality to the contract pulp, either Norwegian, Swedish, Finnish or Canadian. If the pulp was Finnish or Canadian, the plaintiffs were to have brands to submit to their buyers. It was then agreed that shipments had to be by the end of September. Subsequently the plaintiffs repudiated the contract, and then on September 20th he saw the plaintiffs with Mr Forse, and told them that he had a definite offer for Norwegian pulp to put before them. Plaintiffs then said it was too late to take the pulp. In these circumstances he told them that the only thing was to refer the matter to arbitration. In September he could have got pulp on the 50 per cent basis at £13 or £14 per ton f.o.b.

In cross examination witness said he had an offer on September 26th from the representative of Messrs Churchill and Sim £16 f.o.b. for pulp on the other side.

In reply to his lordship witness admitted it was not a firm offer but was tantamount to that. He denied that the plaintiffs had offered on September 29th to take anything or had asked him what the brands were.

Mr Axel Forse managing director of the defendant company explained that their seller was unable to fulfil his engagement and they consequently failed to supply to plaintiffs under the original contract. They were willing to substitute other pulp. He said in September there would have been no difficulty in getting pulp into this country in a week from Norway and he did not think there would have been any difficulty in getting 1000 tons in Norway in September 1920.

Mr Mackinnon for the defendants, submitted that there had been no breach in this case. There was a definite agreement made on September 10th under which the plaintiffs

agreed to take Norwegian or other pulp in September, and they repudiated at a period when the defendants could have executed the new contract and were ready and willing to do so.

Judgment

His Lordship found in favour of the defendants with costs. He said the question he had to decide turned mainly on what had happened on September 10th 1920, and whether upon that day a contract was entered into between the parties substituting for the original contract one for 1000 tons of 60 per cent air dried pulp or its equivalent in 50 per cent for the first named quality or in lieu of damages which would have flowed from the defendants' breach of the previous contract which they had failed to perform. The plaintiffs said there was no concluded contract on that date for the sale and delivery under the substituted contract or alternatively, they say if there was a contract, it was conditional on the defendants naming the brand they were going to supply and the date of shipment for the approval of the plaintiffs and their buyers. They said that the defendants never named the brand in time for it to be shipped in September and that accordingly they were entitled to say that the defendants having failed to perform that condition of the agreement they (plaintiffs) were relieved from the performance of the agreement. This contention in substance amounted to this, that the plaintiffs were entitled to say there was a condition precedent which was never performed by the defendants. The main question was whose account his lordship should accept as to what happened at the interview of September 10th? The account of Mr Pearce for the plaintiff or the account of Mr Griffiths for the defendants? According to Mr Pearce, such promise as was made at the interval was conditional on the defendant naming the brand and the plaintiff being in a position to put forward that brand to his own purchasers and those purchasers and himself passing it as a suitable delivery under the substituted arrangement that the whole thing was really not determined until the brand was passed by the plaintiffs, the then purchaser. On the other hand it was said by the defendants that it was agreed that the plaintiffs

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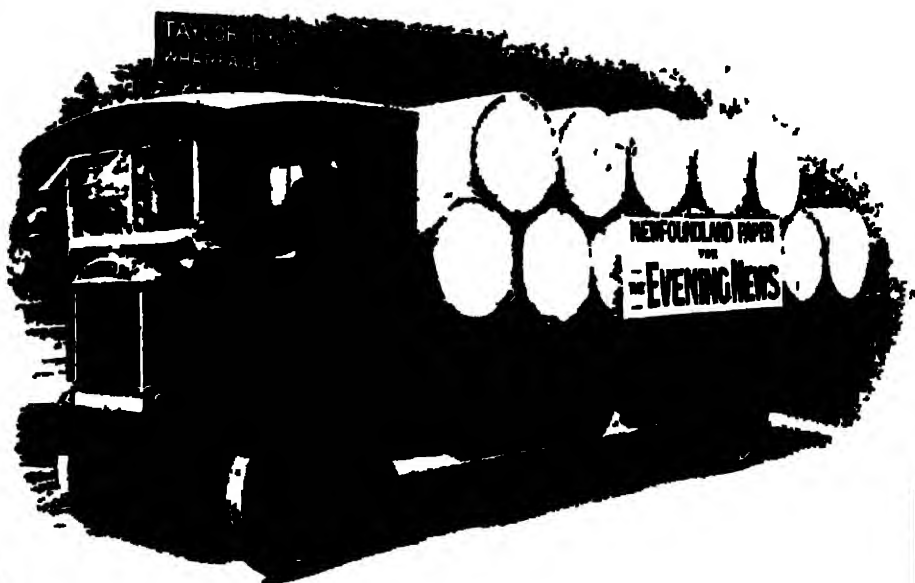
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would take 1000 tons of Norwegian mechanical pulp or Swedish (Canadian or Finnish provided that if defendant was going to deliver anything other than Norwegian they would submit the brand to plaintiffs but that there was a definite agreement which entitled them to get 1000 tons of Norwegian unless the plaintiffs were willing to accept some of the brand submitted by Mr Griffiths but that it was for him to get 1000 tons of Norwegian or something else. Was it true to say the matter was finally disposed of on September 10th, and that the plaintiffs were in the position to insist on delivery of 1,000 tons to fulfil their contract to Messrs Dixon? He had to look at the documents to ascertain the truth and he could find no item amongst the documents at the time that indicated that there had been any such condition as that suggested by the plaintiffs that the brands must be submitted and that until they were passed there was no objection to receive delivery or take the 1000 tons. His Lordship expressed the view that the documents rather supported the view of Mr Griffiths and said the market was going down at the time or at least there were probabilities that it would. The sellers were holding their hands to see what would happen, but there was plenty of material to be had and possibly at prices that would have been lower at the end of September than in the middle. In these circumstances Mr Griffiths came to the conclusion that if he pressed for it at any moment he could get the pulp but that it was not necessary for him to fix up the contract immediately. He probably thought the buyers would settle on more favourable terms, and were not very keen on having the goods delivered. Then on September 20th plaintiffs telegraphed to the defendants to the effect that their buyers refused to wait longer, and stating that they could possibly arrange cancellation against compensation of £2500 subject to immediate reply. His Lordship said it was not a very honest telegram to send but that was not a point he (his Lordship) had to consider. What he had to consider was whether that was a definite repudiation to take the goods before the end of September. He did not think it was. It was not until they got to September 23rd that there was a definite refusal. On that date plaintiffs telegraphed

to Mr Griffiths "Now too late to arrange difficulty by promise to deliver substitute. Can only settle on basis of compensation. Have wired Anglo-Swedish accordingly."

That seemed to his Lordship to be a definite repudiation in advance. There had been no breach by anybody at that time because the whole of September was still open for the performance of this contract by the defendants. The answer the plaintiffs made to that was that the defendants, not having bought the goods, they could not perform the contract and had therefore broken it. At that time he did not think it could be said that the contract was incapable of being performed. The fulfilment of a contract was by handing over the documents and it was not clear that a telegram sent on September 23rd or 24th might not have resulted in the pulp arriving in Grimsby by September 30th so that the documents could have been tendered. He did not think it was at all clear that that was impossible although he agreed that it might have been extremely difficult for the defendants to perform their contract but that it would not do. The plaintiffs must demonstrate that there was a broken contract and they had not done that. He did not think at the time it could be stated that the substituted contract was incapable of performance and in these circumstances there must be judgment for defendants with costs.

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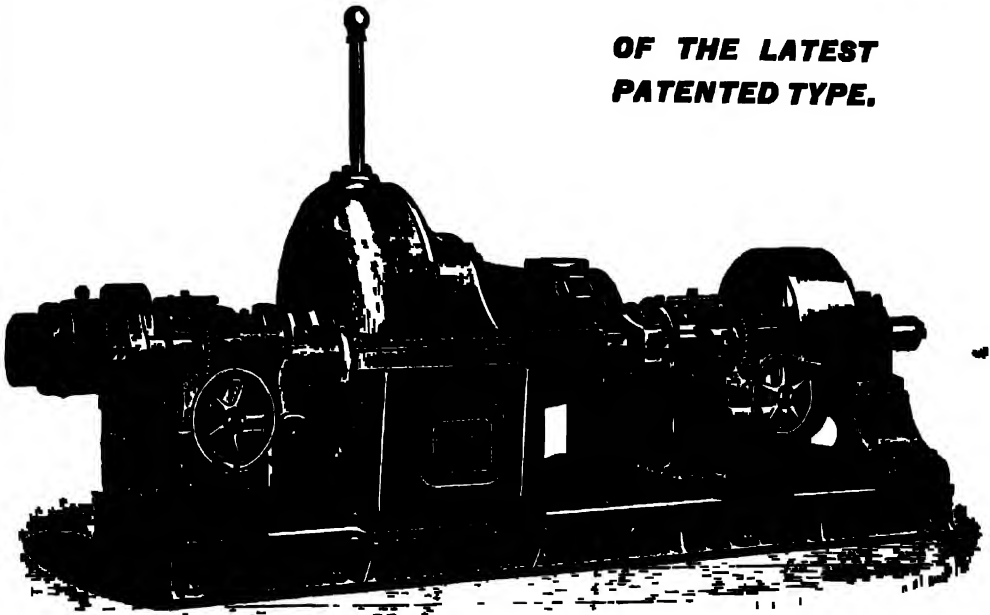
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THE MANUFACTURE OF PAPER.

Calender Roll Paper.

Description of Manufacture

(Specially translated for the WORLD PAPER TRADE REVIEW)

Calender roll papers form an entirely special group, the manufacture of which differs sensibly from that of other papers, the following is a short description of its production.

As the name indicates, this paper is used for the construction of calender rolls. The square sheets, whose sides measure rather more than the finished diameter of the roll, have round holes punched in the centre, of such a size that they will only just pass on to the solid steel core of the roll. The punching is done in small packs of sheets at a time, but they should be put on to the core individually and each one turned through an eighth or a quarter turn in advance of the one preceding so as to ensure that running and cross directions of the sheets may fall continually in new directions. This gives a more homogeneous roll which works better in the roll turning lathe and more evenly and satisfactorily in the calender.

As the sheets are threaded on to the roll they are pressed together from time to time and finally the whole roll is placed in a special press where the paper is heavily pressed together and the keeper rings in-

serted, after which follows the coarse turning, fine turning, and grinding or buffing.

For this special purpose a paper is demanded which shall be loose and felt like and yet fairly strong and well felted. The paper must also be entirely free from knots or lumps, it must be absolutely free from sand or other extraneous matter, as also from acids or alkalies. Loading and sizing must be avoided and the better sorts should not contain more than 1.5 per cent of ash.

For good qualities the raw materials are wool, cotton and sometimes a little linen but mainly woollen rags of good cloth. After dusting, these are cut small and fed direct to the beater without being boiled. The furnish is made light and they are beaten or rather cut by sharp tackle to a very free pulp. The cotton and linen rags are treated in exactly the same way and it is preferable to break them in separately and mix them as half stuff with the wool.

A usual composition is about 6 to 7 per cent woollen cloth or other woollen rag, 20 to 30 per cent and 10 to 20 per cent linen. The linen gives the paper increased strength but closes up the sheet more than is desirable and is better left out if a good strong cotton rag is available. Mixtures of 75 per cent wool, 20 per cent cotton and 5 per cent jute yield very good calender roll paper whose surfaces show great adhesion and which presses to a more compact roll than papers with smoother surfaces.

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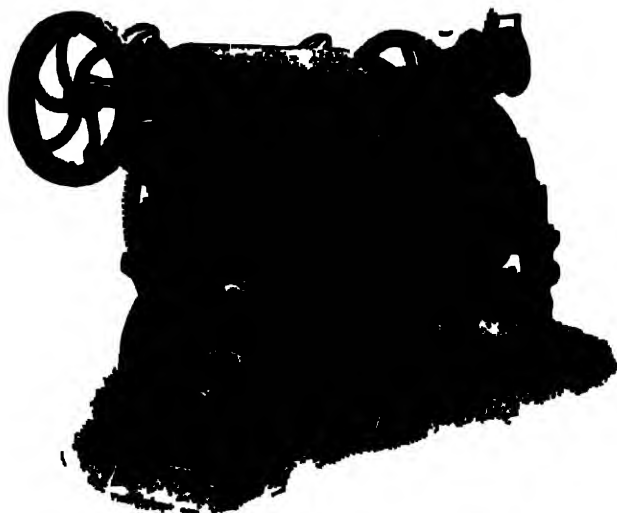
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and its roll the stuff is beaten or cut for from two to five hours in the known method for producing free stuff with long fibre, in fact as stuff for blottings is prepared.

The stuff is run over the machine to form a sheet of about 170 grms per sq m. a lighter paper of 80 grms is also made but other weights are rarely asked for.

The machine should have a pretty long wire and the stuff is worked with much water and a lively shake so that the water may be carried well forward and form an even and well felted sheet. To avoid closing the sheet too much and to preserve its bulky and felty nature the suction boxes should draw lightly and the presses should not be weighted. Good open felts are necessary but the water is not difficult to remove from such free stuff. The first cylinder should be only just warm and the others should be only moderately heated so as to preserve the softness of the paper.

Flat suitable strainers are necessary to clean and rotary ones are always to be preferred to flat strainers for the stuff. To eliminate knots a fairly fine cut must be used and in a flat strainer these soon fill up and the rags to clean the plates only result in sanding the lumps of stuff hanging in the slots on to the machine, the rotary strainer should have an active vibration and powerful sprays.

This paper may be run with or without felts on the drying cylinders. In the last case it is advisable to have the spring on pressing rollers fitted above the leading rolls.

The capillary property is taken as a means of controlling the quality of this sort of paper and good calender roll papers show 80, 90, and even as high as 100 mm in ten minutes.

Papers which are not quite free from acid, alkali and ash perish quickly in the calender, under the influence of the high pressure and friction with the high temperature the paper becomes horn like where acids or alkalis are present and these portions soon break out leaving pits and holes in the surface of the roll. W. L. in *Paper Fabrics*.

British Empire Exhibition.

The objects of the British Empire Exhibition 1923 are to find fresh sources of national wealth in the development and utilisation of the raw materials of the Empire. To foster inter-imperial trade and find fresh world markets for Dominion and Home products. To make the different parts and peoples of the British Empire better known to each other and to focus public attention in this country on the illimitable possibilities of India and the great Dominions overseas as well as of the Crown Colonies and Dependencies—our vast undeveloped estate.

The King is patron of the Exhibition and the Prince of Wales president of the general committee.

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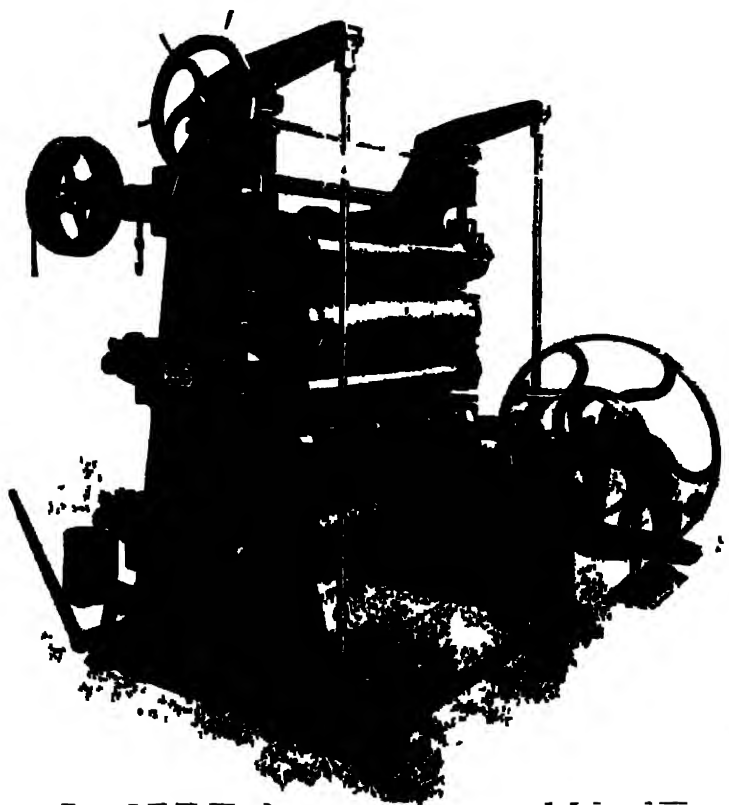
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Trade Notes.

EDITORIAL NOTICE—The Editor will be pleased to receive items of News, Personal and General, Company Reports, or Newspaper Cuttings of interest to the Paper Trade.

INVITED to attend the exhibition of the film depicting the work of getting out pulp wood in Canada, a paper man in London remarked this week: "If you will get a film showing how orders can be obtained I will come."

THIS anxiety with regard to orders prevails generally paper business moving very slowly.

It is admitted, however, that the paper position has been improving during recent weeks though it is difficult to specify where the improvement lies.

WHOLSALE stationers report a better state of things but the effect has scarcely been felt by the mills.

WRAPPING mills report a somewhat better demand which is a hopeful sign in view of the bad time recently experienced.

A MOVEMENT is on foot to secure a recognised stand for the paper trade in the new Royal Exchange at Manchester.

THE railway statistics for the month of July issued by H.M. Stationery Office, indicate the serious effect of the recent coal strike and the depression in trade upon the railway traffic in Great Britain. Paper showed a decrease of 41,289 tons compared with July a year before, or 48.82 per cent.

MR JUSTICE ASTBURY on Tuesday ordered the *Sunday Sportsman* Co. to be wound up. There were two petitions before the court one by Erik Fernstrom and the other by Spalding and Hodge, Ltd. creditors for £544 and £2,500 respectively. Counsel for other creditors supported the petitions.

IN connection with the papermaking classes at Battersea Polytechnic the film illustrating the manufacture of paper "from standing timber to finished sheet" is to be exhibited next Monday at 7.15 p.m. Messrs Charles Walmsley, who own the film are kindly lending it for the occasion, and the exhibition is under the auspices of the Technical Section of the Papermakers Association.

THE Papermakers Association has reprinted and is circulating among its members and the trade unions the revised syllabus of the City and Guilds of London Institute examination in the technology of paper manufacture. There are only two trades in which the first grade examination is being held—gas engineering and papermaking. It is hoped that employees will take advantage of this special privilege and that employers will afford them facilities for doing so.

MAJOR BARLOW AND SON, paper mill agents and merchants, Blackfriars House, New Bridge street London, have become annual members of the Swedish Chamber of Commerce for the United Kingdom.

THE Newspaper Society and the Employers' Federation of Envelope Makers and Manufacturing Stationers will remove into their new offices at 10, Salisbury-square, this week.

THE Anaglypta and Lincrusta-Walton branches of the Wall Paper Manufacturers Ltd., are represented at the Ideal Decorations Exhibition, which opened on Tuesday at Manchester.

MR JOHN BRADLEY, papermakers agent and merchant, Queen Victoria street, E.C., issues an interesting sample set of his Southwark series white pasteboards, ranging from 3 sheet to 12 sheet. The boards bulk well and prices are adjusted on a cost basis.

MESSRS COSTA AND LUTHILL have acquired York House 14 York place Edinburgh, which is now their office address. The new premises are self contained, well appointed and every thing arranged to enable the firm not only to attend to their own customers requirements in an adequate manner, but to meet the convenience of business callers.

THE LATE MR W. BAIDWIN, Rectory Farm, Iaplow Bucks and Upper Thames street F.C., paper manufacturer, who died on June 20th, in his 60th year left estate of the gross value of £33,708, the net personalty being £32,741. The testator gives £200, the household and personal effects, and during widowhood £2,000 a year to his wife, £3,000 in trust for his daughter Daphne Monica, £50 each to the executors, £500 to Alice Osborn, for long and devoted service.

WE are indebted to Messrs H. D. Pochin and Co. Ltd. whose head office is in Manchester for two framed photographs of their China clay mines in Cornwall. Three feet long by 14 in deep, the pictures give detailed views of the pits, tanks and dries at the Gother's Mine and of the famous Gunheath Clay Pit. At the first named mine approximately 47,000 tons of china clay are dealt with annually and at Gunheath Pit the annual production is between 35,000 and 37,000 tons. An excellent idea of the extent of these works and the elaborate means for raising and treating the clay is given by the panoramic photographs.

THE MAUDSLAY MOTOR CO., LTD. make an excellent display at the Commercial Motor Show at Olympia. Among their exhibits is a new motor, of 4½ in. by 6 in. bore and stroke. The engine has a detachable head and a three bearing crankshaft, the bearings being in the top half of the crankcase and lubricated under pressure. A bevel gear from a vertical shaft at the flywheel end of the motor drives the magneto and the water pump. The passenger vehicles are a 35 seater single deck bus and a 28 seater charabanc. The 6 ton lorry, with a 50 h.p. engine, has a loading space of 19 ft 6 in., whilst the 3 ton machine has a short wheelbase of no more than 10 ft 6 in., so that it can be accommodated on any standard weighbridge.

HOWARD SMITH PAPER MILLS, LTD. have declared the regular quarterly dividends of 2 percent on both common and preferred stock.

British Paper in Australia.

How the Preferential Tariff for News-Print was Won

During the war British papers in Australia were largely supplanted by foreign makes. Our own mills had to turn their machinery over to the manufacture of material necessary for the war, and in the absence of paper available for export from this country Australia and New Zealand consumers had to rely upon other sources of supply.

Canadian mills, which were largely financed by American capital, American manufacturers and Japanese merchants readily seized the opportunity and found in the Commonwealth a valuable outlet for their paper goods.

With the termination of the war it became necessary to regain the Australian market for British made papers, and Mr James Holland was sent out on behalf of the industry in this country to see what could be done to recover lost custom. It is fortunate for the paper industry of the United Kingdom that there are enterprising men directing large concerns who were inspired to take the initiative in this undertaking. Mr Holland has now returned home after a very successful visit to the Antipodes. As a result of his activities British news print receives under the new tariff a preference of at least £2 a ton over that from all other countries, and it is just on the cards that this preference may yet be £3 as proposed by the House of Representatives. The Senate, as indicated in another part of this issue, has reduced the rate of preference from £3 to £2, but it is yet possible that the combined houses may raise the figure again to £3.

This very substantial advantage is entirely due to Mr Holland's mission. He had, of course to fight very strong interests, but he took off his coat to the task, and produced results. By speeches, correspondence and personal interviews—some of which took place in the early hours of the morning—he pressed forward the claim which the Mother Country had upon the daughter Commonwealth. Mr Holland based his claim first upon patriotism, but he also had a very good business proposition to put forward. He was assisted, no doubt by the fact that considerable feeling had been created among the publishers by the prices for news print demanded by those who had a practical monopoly of the market, and it is a significant fact that as soon as Mr Holland's intentions became known the price of foreign news fell something like £20 a ton.

Mr Holland put up a great fight for the paper industry of this country, and already a considerable amount of business which had been lost during the war has been recovered and the way has been paved for further business to come along.

In his efforts, Mr Holland had the hearty

co operation of the British Trade Commissioner and of Mr Gates (James Spicer and Sons), and the concession secured for British paper is described by a high authority as nothing short of a triumph.

The newspaper owners' interest in the matter of the tariff is, of course very great, but Mr Holland found them very loyally disposed towards the Mother Country, so much so that they expressed the desire to take at any rate a part of their supplies from mills in this country provided the price was near or reasonably near that of the foreigner.

Asked in what condition he found the paper market in Australia Mr Holland observed to a representative of the *Review* "The demand for paper was quite good, but of course, with prices falling almost daily consumers were loth to buy. I predict, however that very soon business in the Southern hemisphere generally will be very good once consumers can reasonably be convinced that the bottom or near the bottom has been reached. Consumers of paper in the Commonwealth and in New Zealand are glad to get back not only to British made papers but to British methods. When one realises that Australia takes 50,000 tons of news print per annum and that consumption is rapidly growing—a consumption which will be stimulated by the promised boom in emigration—then the use of paper is likely to increase in the future at a greater pace than they have ever done."

"I think one day or another perhaps not in our time, Australasia will be the centre of things. The natural resources are enormous. Again it is near the Far East which is destined to become the important part of the world, and on that account Australia must benefit."

Mr Holland informs us that recently some of the most up to date machinery in the world has been installed in Melbourne and Sydney but this is principally used for the manufacture of boards, manilla and wrapping papers. At the present time no news print is made in Australia.

It is not unlikely that Mr Holland may return to Australia in the near future to follow up the results already achieved.

PAPER

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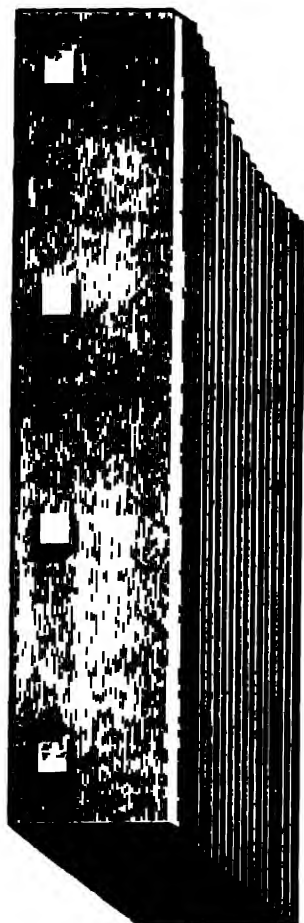
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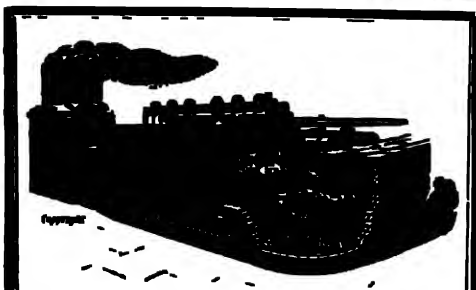
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FRIDAY, OCTOBER 21, 1921

The State of Industry.

WITH so much agitation and political pro-
paganda going forward, it will be wise for
those who are really concerned with the in-
dustrial welfare of the country to keep to their
tasks. The probability is that before any
scheme for dealing with unemployment and
promoting trade is working, the conditions in-
tended to be dealt with will have passed
away. It is, of course, the responsibility of
the Government and the desire of everyone
that steps should be taken to minimise un-
employment and relieve the distress arising
therefrom. But the best solution is to get the
machinery of industry at work again. Arti-
ficial devices are not likely to assist much.
Indeed, they might well lead to impoverish-

ment The only scheme which seems to offer any hope of permanently assisting the industrial welfare of the country is the Exports Credit proposal, which, widened on the experience of the earlier plan, gives promise of better results than temptations to idleness

No Profits for Paper Mills

At the present time British paper mills are faced with two alternatives, either to sell below cost or to attempt to sell at a profit and in the process drive away likely buyers Lord Burnham told the world from the Mansion House platform that there is not a single newspaper in London to day that is making a profit, and there is certainly not a paper mill making a profit This is a condition of affairs which cannot make for stability or a prosperous industry The burdens upon British manufacturers and merchants alike in these days are of a stupendous character Only the goodwill of all concerned can save the situation Happily, in spite of the gloomy forebodings, the official statistics indicate a lessening of unemployment Thus on October 7th, there was approximately 1,375,000 wholly unemployed, as compared with 1,404,681 in the previous week The highest figure this year was at June 24th when there was 2,177,899 wholly unemployed on the live registers It seems therefore, that unemployed persons are gradually being absorbed, and as this process proceeds, together with the lowering cost of living, the purchasing power of the community will automatically rise

Costs and Wages

PAPERMAKERS are naturally interested in the decline in the cost of living figure, and the fact that this has now come down to 110 this month brings a further reduction of wages in the paper industry within measurable distance According to the last agreement if the cost of living declines below 115 and remains there for two months a lower scale of wages comes into operation It is not likely that the figure will rise in the near future, and certainly not reach the level of 115, so that the new scale will come into operation with December A sliding scale arrangement provides for a reduction of 1d in the case of male adults and of 1d in the case of women with smaller amounts for other classes of labour, although employers are not anxious to reduce the wages of their workpeople, it is a necessity that costs of production should be lowered, and one of the means of securing this is by lowering the cost of labour which forms so large a part of

the cost of production Another means of reaching the same goal would be in the way of longer hours which is advocated by Lord Weir and others who are investigating the problem of depression and unemployment In the paper mills, it is felt, there is scope for intensive effort The greater the output of paper, the more can the price be lowered to customers It is quite certain that something will have to be done to encourage orders, and in the absence of anything better it is suggested that it may be feasible to revert to the two shift system

Steady Work Needed

It is generally conceded that genuine work and higher production are two of the most urgent factors in improving the trade and commerce of the country Sir Peter Rylands declares on behalf of the Credits and Currency Committee of the Federation of British Industries that normality will never be reached 'except by continued hard work both in this country and abroad, accompanied by a stern economy which will keep all our expenditure, both private and national, within our income Sir Edwin Stockton, president of the Manchester Chamber of Commerce, puts the first requirements for securing trade recovery as follows — 1 The re-establishment of confidence 2 The removal of mistrust between employers and employed 3 Genuine work by all sections of society 4 Rigid economy in all branches of life, individual municipal and national The problem of restoring trade is the concern of everyone, and the nation must face the situation in the same spirit as it tackled the conditions forced upon the country by the war If only the extreme elements are not allowed to mislead public opinion, there is little doubt that we shall see ourselves safely through the coming winter, which, it is predicted on every hand, will be a severe one

A Mechanical Flutter.

THERE is quite a flutter in the mechanical pulp market at present, due, however, not so much to any great improvement in the paper market, as to causes which are restricting the supply of material In all the producing countries, there has been a shortage of water which has curtailed production, and the strike in Norway closed the grinding mills for some months This latter trouble is now out of the way, and the mills were understood to be starting up again at the beginning of this week But another factor comes into operation, and that is the closing of the Baltic for

the winter, so that shipments from mills in Northern Sweden will be interfered with. All these circumstances point to a continued scarcity of mechanical pulp, and, of course to higher prices, which are already making their appearance. In this connection it is interesting to note that during August and September 92,000 tons of mechanical pulp were imported into this country a figure which shows that imports have practically doubled during recent months although much below those of August and September last year, when the quantity of mechanical pulp brought into this country reached 119,000 tons.

Technical Relations.

THE excellent relations which subsist between the Technical Sections of this country and America speak well for the future development of the industry on the technical side. Nothing but good can come from such understanding. Mr A W Foster, secretary of the British Technical Section, has just received a letter from Mr Clark, a member of the Executive Committee of the Technical Association of the Pulp and Paper Industry (U.S.A.), which breathes the right spirit of good will. The writer says it was the unanimous opinion of his Committee that it would be mutually advantageous for the respective organisations to keep in close contact with each other. Accordingly it has been arranged to exchange publications, not to mention other courtesies. Thus the intimation is conveyed to Mr Foster that he will always receive a very cordial welcome at any of the meetings on the other side. 'This, adds Mr Clark, together with the exchange of publications and the relationship which will make it possible for your members who visit this country to secure entry to our mills, and vice versa, will be the first general step towards closer co operation.' Mr Clark mentions the friendly intercourse which marks the relations of the Canadian and United States sections. By such intercommunication, knowledge and understanding must be widened, and the welfare of the industry as a whole advanced, for the progress made on one side will be an incentive to development on the other.

Awakening Markets

TO MAINTAIN industry in this country and to provide employment for our people, a broader outlet for our goods must be found. If the paper industry is to flourish in this country, we must prepare to meet demands of new civilisations. The innumerable millions of Chinese will consume paper in ever-

increasing quantities, as will also the people in India and other countries where education and knowledge are spreading. In these countries, British commercial prestige stands high, which is a great asset to begin with. An instance comes from South China, whence trade activity is reported. Along the great river which represents the trade route the only two steamers which were permitted to pass by the 'War Lords' of Kwangtung and Kwangsi were those carrying the British flag. But elsewhere such advantages do not exist. In Ceylon on the other hand we find a Japanese commercial touring party busy and German goods arriving, as they are in South America and the West Indies. To meet competition from these and other sources it behoves our merchants and manufacturers to be on the alert.

* * *

British Engineers and Paper Industry

BRITISH engineers are playing no little part in the development of the pulp and paper industry of the world, and this development is of no mean order. The uses of paper and board are growing constantly and the scope for enterprise and initiative with them. It is good to know that British engineers are taking a foremost part in the work even in Canada where the opportunities are so well understood as well as being so vast. Accordingly in spite of a period of trade depression the value of paper mill machines sent from this country has increased during the past three months of the current year as compared with the corresponding period of last year the figure of 247,122 dollars comparing with 58,714 a year before. Paper machines were a feature of the machinery imports into Canada, and we hope it may continue to be so. The importation of paper into Canada from this country also showed a gain of a few thousands of dollars, the total value of paper imports for the first quarter of the current fiscal year being 158,214 dollars.

THE American paper industry is an active participant in the campaign to restock 81,000,000 acres of idle forest land in the United States.

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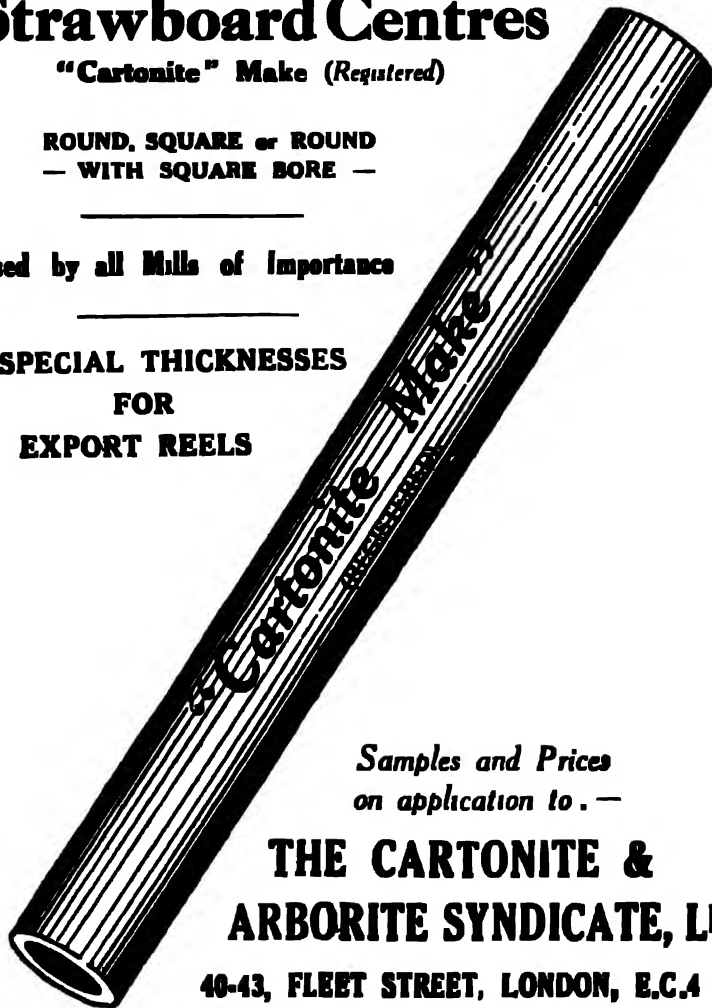
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The Paper Salesman and the Printer.

Relations between the seller of paper and the printer are necessarily close and they ought to be characterised by perfect harmony. That so large a body of consumers as is represented by master printers should receive some recognition is obvious and it follows of course, that in return proper consideration should be extended by the consumer to the supplier. Just now there is some agitation going on in the United States concerning dealings between the representatives of the two industries. Master printers are arguing strongly in favour of what is termed 'the long price list for paper'. The purpose of the long list is to secure for the printer an advantage in price as compared with other consumers. Arguments advanced in favour of this course are the services which the printers perform as distributors of paper. This is just the point where wholesalers are apt to become suspicious. It would be but a short way between consuming paper and selling it, which latter office is that of the merchant and agent. From the mill point of view, the printer is a very important person and there may be good grounds why the wholesaler is jealous of him. While it is true that the printer specifies descriptions of paper and creates a market for it in printed form there are limitations to his capacity for carrying stock, which is again the office of the merchant. A danger which has recently arisen is the tendency of printers to attach an unfair value to the paper they use. At one time paper was regarded as of little account, but war experiences rectified that view and paper was made a medium of greater profit. On this account, perhaps, the costing system of master printers might be viewed with some apprehension. It is of course, in the interests of the craft that printing should sell as cheaply as is economically possible, and this has been urged upon everybody by recent events. Paper merchants are willing to help towards cultivating business in this way but there should be a recognition of the assistance thus afforded. The relations existing between master printers and the purveyors of

paper will no doubt come up for consideration in the near future, but the success of any such deliberations will depend upon the frankness displayed on all sides.

Vegetable Parchment Patents.

The machinery and plant of the British Parchment Co., Ltd., which was formed some three years ago to acquire and work a patent granted to Mr. Walter Dagnall for the manufacture of vegetable parchment, have been purchased by Mr. Geo. H. Wilkinson of the National Paper and Pulp Co. (1920) Ltd. Mr. Wilkinson is also the proprietor of the patent in question, No. 123,594/18. The British Parchment Co. Ltd., had the support of several members of the trade but, unfortunately, anticipations were not realised. It is evident that for successful development manufacture should be carried on in close association with a suitable mill for furnishing the raw materials. We hear that a further patent, claiming improvements in the manufacture of vegetable parchment, has been granted to a British papermaker.

Improving Italian Paper.

Within recent months a combination of paper manufacturers has been formed in Italy, with headquarters at Turin, the object being to improve the papermaking industry, for which Italy, hitherto, has not been very well known. There are a number of paper making plants in the kingdom but the quality of their products has not hitherto been regarded as first class. It is now proposed to place the industry upon a different footing, and for this purpose it is believed that extensive purchases of papermaking machinery will be made in other European countries. Hitherto Germany and Switzerland have supplied the greater part of the plant for papermaking, there are only two firms in Italy which turn out any supplies of this kind.

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Paper and Stationery for Egypt.

Call for Tenders

The Egyptian Ministry of Finance has invited tenders for the supply of paper stationery and general office material required by the Central Stores, Ministry of Finance for the year 1922-1923. Tenders will be received by the Central Stationery Stores Department Ministry of Finance, Cairo up till noon on December 15th.

Local representation is essential. The Department of Overseas Trade is prepared to furnish to United Kingdom firms not represented names of British houses having agents or branches in Egypt through whom their tenders could be submitted.

A copy of the specification conditions of tender and tender form relating to this contract may be inspected by United Kingdom manufacturers and exporters on application to the Inquiry Room, Department of Overseas Trade, 35 Old Queen Street, London, S.W. 1.

A limited number of copies is also available for loan in order of application to firms in the provinces who are unable to inspect the documents in London.

British ex-soldiers have been engaged selling Japanese writing pads with envelopes for 1s 6d at suburban doors.

Death of Mr. William C. Edwards.

By the death of Senator Wm. Cameron Edwards at Ottawa, Canada has lost a prominent figure in the lumber, pulp and paper industries. Born in May 1844 he was of Celtic extraction his father William Edwards being Welsh and his mother Anne Edwards nee Cameron of good Scottish blood. After going through the Ottawa Grammar School his first field of endeavour was in the lumbering business, and his first earnings in this field came in 1863 at Thurso, Quebec. He was then attached to the pioneer lumbering firm of Cameron and Edwards, with which he remained for five years when he founded the business of W. C. Edwards and Co. at Rockland. This company grew to be one of the greatest of its kind in Canada and last summer passed to the Riordon Pulp and Paper Co. which on reorganisation is known now as the Riordon Co. Ltd. of which the Senator was a director. The transferring of the W. C. Edwards interests to those of the Riordon Co. were the principal holdings in a \$60,000,000 merger which included the Ticonderoga Pulp and Paper Co. the Kipawa Co. Ltd. Gilmour and Hughson, Hull, Quebec and the W. C. Edwards Co. Prior to the sale the late Senator had disposed of his dominating interest in the firm and was a preferred stockholder when the deal was put through.

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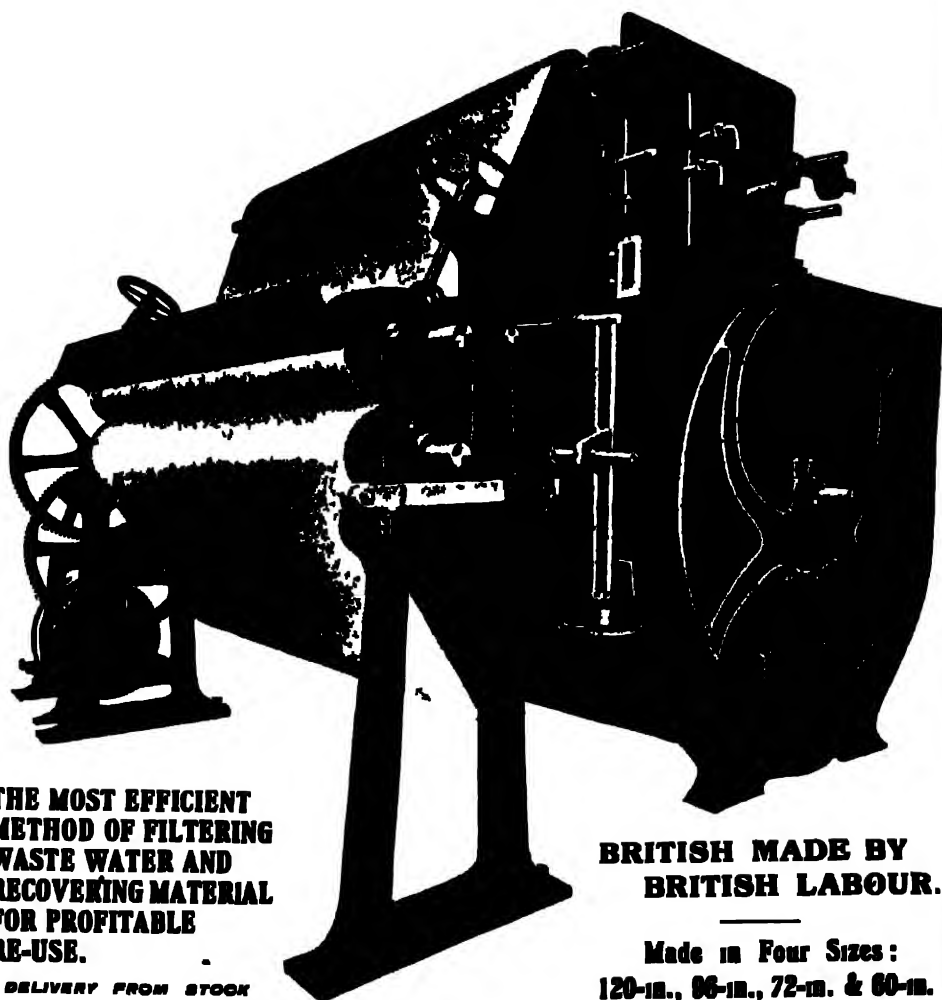
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Paper Box Wages.

Trade Board Varies Minimum Rates

At a meeting of the Paper Box Trade Board (Great Britain), held on October 14th, the Board resolved to vary minimum rates of wages for certain classes of male workers and for all female workers in accordance with the proposals set out in their Notice B (7) dated August 4th.

The variation provides for a reduction in the general minimum time rate for certain classes of male workers employed on specified operations from 1s 7½d per hour to 1s 6½d per hour, with corresponding reductions for younger and less experienced workers of these classes.

The general minimum time rates for female workers other than learners is reduced from 9½d per hour to 8½d per hour with corresponding reductions for female learners. The piece work basis time rate for female workers is reduced from 9½d per hour to 8½d per hour.

The overtime rates applicable are calculated on the basis of the reduced general minimum time rates or the piece work basis time rates as the case may be.

Notification of the minimum rates of wages as varied by the Trade Board has been sent to the Minister of Labour with a request that he should confirm the rates as varied and the Trade Board has suggested that the new rates should come into operation as from the earliest practicable date. If and when the minimum rates of wages as varied by the Trade Board are confirmed by the Minister of Labour and made effective, due notice will be given as required by the Trade Boards Acts.

The King has been pleased to accept the resignation of the Right Hon Sir Eric Geddes as Minister of Transport, to take effect as from Saturday last. Pending consideration of the recommendations which he has made as to the future of the Department and of proposals for the redistribution of Government business which may be made by the Treasury Committee on National Expenditure, the Parliamentary Under Secretary (Mr Neal) will be in charge of the Ministry.

General Notes.

Imports of stationery, etc., into Russia during May are given as 111,137 poods.

It is now stated that the 146 papermaking enterprises in Russia have been nationalised. Number of workmen employed is put at 32,684.

SIR WILLIAM ALEXANDER, chairman of the British Dyestuffs Corporation, has gone to New York to confer with American dye makers regarding German competition.

At a conference convened by the British Engineers Association on Wednesday, Lord Weir estimated the increase in cost of British products last year due to the shortened working week at £200,000,000. He advocated longer hours, with wage reduction only as a last resort.

A WELL KNOWN North London emporium, in order to advertise its stationery goods is displaying in pictorial form the different processes used in papermaking. The well arranged display includes specimens of raw esparto grass, rag trimmings, half stuff and dyes.

THE late Mr Henry Greenwood Letley, chairman of Messrs Courtaulds Ltd, crêpe and artificial silk manufacturers, left a fortune of £1,917,810. Duties on the property at this valuation amount to £700,000. Testator bequeathed about £250,000 to various public institutions.

THE Disposal and Liquidation Commission have entered into a contract with Charles Tennant and Co, Ltd, of Glasgow, chemical merchants and manufacturers, for the disposal of the unsold balance of chemicals and explosives on a commission basis.

THE Employment Department of the Ministry of Labour has decided to accept the recommendation of 5 per cent of the male staff in respect of the hand made paper industry as a qualification for the King's Roll and the local employment committees concerned have been notified accordingly in order that they may be in a position to deal with any undertaking received from the firms covered by the agreement.

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Personal.

SIR ALBERT SPICER and **Mr Oswald Partington** were among those who attended the League of Nations Union meeting at the Mansion House, London, on Tuesday

Mr F A B LORD has been elected Master of the Makers of Playing Cards

Mr W LEONARD LOD, president of the Papermakers Association, has been actively engaged as chairman of the Railways and Transport Committee of the Edinburgh Chamber of Commerce

Mr H GOLDSTRAW, chairman of the London division of the Technical Section will, in all probability, preside at the next meeting, which is to be held at the Connaught Rooms on Friday next, October 28th, when **Mr L W Farrow** will give an address on costing

Mr ARTHUR BAKER, chairman of the Southern Board of the Employers Federation of Papermakers, accompanied by **Mr A W Foster**, secretary of the Papermakers Association, on Monday attended with the deputation representing manufacturers to the Minister of Labour, for the purpose of discussing the unemployment question

Mr ARTHUR F WATKINSON, paper agent 32 Ludgate hill, London, is the organising secretary for the Hackney, Dalston and Stoke Newington Branch of the Invalid Children's Aid Association and is at present very busy arranging a special matinee which is to be held at the Hackney Empire on November 10th for the benefit of the Association

PRINCESS MARY has graciously consented to attend the matinee and the Patron's Committee includes the Duchess of Sunderland, Lord and Lady Wavertree, the Marchioness of Salisbury and many other prominent members of society, while **Sir Alfredripp** is president of the institution

Mr WATKINSON hopes that the paper and allied trades will give some assistance on the occasion of the matinee, and he informs us there are still a few boxes and good stall seats available. In addition to the matinee a penny fund is being taken in the district and it is hoped to realise a goodly sum for the benefit of the charity

Mr A W FOSTER, secretary of the Paper makers' Association, is to give an address before the Secretaries' Association on October 27th at the Trocadero Restaurant, his subject being "What is the Ideal Manufacturers' Association?"

MR R W SINDALL, F C S, is to give an address on "The Manufacture of Wood Pulp" at the City of London College, White street E C, on March 6th next, this being one of a series of timber trade addresses

MR BALFOUR REEKIE, of Messrs Gordon and Gotch has been installed Worshipful Master of the St Martin's le Grand Lodge of Freemasons, No 1538. The installation ceremony was conducted by **Mr W Torton Gooderidge**. **Mr W J Berrill** was appointed secretary, and among others present were **Mr E C Mulvey, P A G D C**

MR WM WHYTE, who is well known in Canadian paper trade circles has been appointed Dominion representative for Messrs Chas Walmsley and Co., Ltd, whose paper making machinery has a high reputation on the other side of the Atlantic


SIR FREDERICK MACMILLAN, J P, who has just celebrated his 70th birthday, took a prominent part in connection with the Royal Commission on Paper during the war

MR G T MILNE, O B E, H M Trade Commissioner at Headquarters, has been appointed to the post of H M Senior Trade Commissioner in Canada and Newfoundland in succession to Captain Edwards, resigned. Arrangements have been made for Mr Milne to leave this country on October 19th to take up his duties at Montreal

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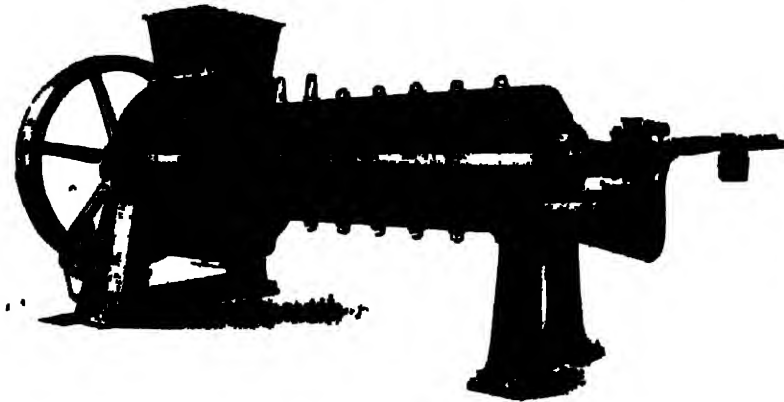
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Technical Papermaking.

Foreign Competition Necessitates Higher Standard of Knowledge

Some useful observations on the need for technical instruction in paper manufacture were made at the Dartford Technical Institute on the occasion of a lecture on 'Papermaking,' delivered by Mr A A Whalley.

The proceedings were opened by Mr D I Brow, the Principal of the Dartford Technical Institute, who alluded to the severity of competition from abroad necessitating a higher standard of knowledge and training at home in each of the three departments of the industry papermaking, papermaking machines and chemistry as applied to the papermaking industry. Mr Brow referred to the success which had attended the course of instruction in papermaking given by Mr Whalley in the Institute during last winter session, and stated that, provided the necessary support were forthcoming the committee was prepared to offer facilities for instruction and training in each of the sections to which reference had been made.

Mr Brow mentioned the distinction which had been gained by one of the students of the Institute who attended the papermaking class last session. Mr John Berriman, who obtained a first class in the final examination of the City and Guilds of London Institute at his first attempt. The Papermakers Association had awarded Mr Berriman its diploma in papermaking, and a prize of 30s in recognition of his success and he had also been given two valuable book prizes by Mr A Baker of the Empire Mills. Mr Brow presented Mr Berriman with the certificate issued by the City and Guilds of London Institute.

Mr Whalley, with the aid of some 200 lantern slides, described the many phases of paper manufacture, both old and new. Exhibits of the more commonly, as well as the lesser known fibrous materials, together with artificial silk and cellulose acetate products were on the table for inspection. Mr Whalley concluded his lecture with a series of microphotographs of fibres and slides of local mills including the Empire Mills Greenhithe, the mills at Horton Kirby, the Imperial and the Daily Telegraph Mills.

Messrs Windpiana and Co Ltd whole sale paper merchants and envelope makers, 130, Barr street, Birmingham are sending round an attractive sample set of stock envelopes. The style of the set is very neat and compact. A stout cover carries on the inside a complete list of prices, facing which are the samples of cream laid, cartridge manilla and azure laid envelopes arranged very neatly and conveniently for reference. Prices and quality alike are deserving of attention.

From the sale of wastepaper in a quarter the L C C realised £103



Sunday Posts and Papermaking

To the Editor of the "World's Paper Trade Review"

Sir, -It was with considerable surprise and regret that I read your notice under the heading 'Sunday Posts and Papermaking' in your issue of 14th inst.

I never could understand why postmen in the country should be deprived of their Sunday off and when the Postmaster General arranged to have the whole of the country treated alike I regarded it as a step in the right direction.

Under the old arrangement provincial merchants who chose to at end to their ordinary business on Sunday, had a distinct advantage over London merchants in regard to week end inquiries, which was not fair.

If pressure is to be put on the authorities to get the Sunday post re-instated in country districts I fear it will lead to efforts being made to get the same facilities for London and I hope such a retrograde step will never be taken.

Having been accustomed all my life to the blessing of Sundays free from the worries of business, I desire that as far as possible everybody shall have the same blessing.

Any inconvenience that Mr H G Spier and others like him may feel at present through the change they will soon overcome and there is no reason why they should not arrange their business without the Sunday post, the same as others do.

Yours etc,

BERNARD SMITH

London October 16th, 1921

At Wednesday's meeting of the Grand Council of the Federation of British Industries it was decided to recommend to the annual general meeting of members the appointment of Col O C Armstrong DSO (chairman of Messrs Greenwood and Batley) to the position of President of the F B I in succession to Sir W Peter Rylands.

Messrs Wnables, Tyler and Co Ltd, papermakers and wholesale and export stationers, of 17 Queenhithe, London, E C 4 are issuing a unique sample book of some of the various lines of papers they are now keeping in stock. It is made up on the loose leaf system, the stout board cover (11 in by 9 in) having an interior flange through which brass screws pass and firmly fix the sample sheets. The book is made the more valuable by the table of equivalent weights attached to the inside of the cover. As for the samples themselves the printings, boards, etc., are slightly larger than the writings, thus rendering reference still more easy. There is a fine range of papers to select from.

Chirnside Paper Mills.

Scheme of Electrification Completed

The electrification of the Chirnside Paper Mills has now been completed and the auxiliary steam driven machinery is superseded by electric motors which have been specially designed for adaptation to the paper industry. The scheme has been carried out under the supervision of Mr I B Bailow, A.M.I.E.E. Berwick on Tweed, local electrical engineer to Messrs Edmundson's Electricity Corporation, Ltd., and the change over should prove extremely beneficial to the efficient driving of the mills.

The departments now controlled electrically are the cutters, reelers and compressor sections, while hoists and fitting shop, pulp house, bleach shop and rotary departments have adopted electric power.

The whole of these motors, ranging from twenty five horse power downwards, are driven by a high efficiency prime mover which supplies electrical energy to a main switchboard and the energy is thence transmitted to two specially designed switchboards,

from which the current is distributed to the various sections of the mill.

Envelope Tenders for Egypt.

New Zealand General Post Office has invited tenders for the supply of 100,000 cream-laid envelopes (note) addressed "The Chief Postmaster," 100,000 manilla envelopes (note) addressed "The Chief Postmaster," 750,000 foolscap manilla envelopes unaddressed, 25,000 foolscap manilla envelopes addressed "The Controller of Stores, Post and Telegraph Department, Wellington."

Tenders which should be addressed to the Controller of Stores, Post and Telegraph Department, Wellington, will be received up to 5 p.m. on December 6th. This information will accordingly only be of use to United Kingdom firms represented in New Zealand who can instruct their agents by cable.

A copy of the specification may be inspected by United Kingdom manufacturers and exporters on application to The Inquiry Room, Department of Overseas Trade, 35 Old Queen Street, London S.W.1.

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THE WORLD'S Wood Pulp Industry

Scandinavian Rates of Exchange.

THE following rates were current on the dates mentioned (par of exchange to £1—Christiania, Kr 18 159, Stockholm, Kr 18 159, Helsingfors, M 25 22½) —

	CHRISTIANIA Kronor	STOCKHOLM Kronor	HELSINGFORS Marks
Oct 13	31 70-31 80	16 55-16 78	245-260
" 14	31 65-31 80	16 60 16 75	250-260
" 15	31 57-31 75	16 67 16 77	250-256
" 17	31 40-31 50	16 92-17 02	250-255
" 18	29 60 30 40	16 95-17 15	250-260
" 19	29 75-30 85	16 65-16 95	245-255

British Imports—Sources of Supply.

THE arrivals of wood pulp at British ports from various countries during the week ended October 8th, 1921, were as under —

BLEACHED CHEMICAL—DRY

Norway	100 tons	£4,654
Holland	28 "	510
Sweden	5 "	210

UNBLEACHED CHEMICAL—DRY

Sweden	2,811 tons	£106,914
Norway	775 "	24,094
Finland	326 "	9,420
U.S.A.	22 "	682
Germany	11 "	173

CHEMICAL—WET

Norway	672 tons	£3,359
--------	----------	--------

MECHANICAL—WET

Norway	8,310 tons	£12,358
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United Kingdom.

THE wood pulp market is described as decidedly more lively

A FAIR amount of inquiries are about and some business is being done

ALTHOUGH the activity concerns principally mechanical pulp, there is quite an improved tone in regard to chemical

IT is fully anticipated that this side of the market will pick up very shortly, and the future is regarded as hopeful

THE mechanical market is decidedly the stronger feature, and prices have risen substantially in response to demand

ANOTHER factor which gives strength to the market is the scarcity of the material

IN the first place, the Norwegian mills have been closed down for a considerable period, and in the second place South Swedish mills have been suffering from lack of water

WITH the settlement of the Norwegian strike last week it is expected that producing mills will have started up again

IN the North of Sweden there is reported to be plenty of water, but there will shortly be the difficulty of shipping material by reason of the closing of navigation

IT is expected, therefore, that mechanical pulp will be scarce during the coming winter and, consequently dear

Norway

APART from the settlement of the strike in the pulp mills, there is little change to be noted in the pulp market

IT was a condition of the settlement arrived at in the wages dispute that work should be resumed immediately, but in the case of some of the mechanical mills operation cannot be resumed it is said, owing to the lack of water

APPARENTLY the mills will not find it easy to start up again, and in this event labourers are to be re-engaged as production commences, provided they have presented themselves within a fortnight of the termination of the conflict

MECHANICAL pulp is in fair demand and prices are slowly rising

UNITED KINGDOM and Continental consumers are in the market

EAST bleaching and strong sulphite are firmer in price

Sweden.

THE pulp market is a little patchy, but a strong undertone is beginning to manifest itself

SO FAR, however, there is not a great sale for chemical pulp, it being pointed out that British consumers have still large stocks with running contracts covering their needs for several months ahead

FRENCH, Belgian and Dutch papermakers, whose stocks are decreasing have come into the market for parcels for prompt delivery, but, adds *Afsarsvarlden* as the Finnish pulp makers quotations are 20 to 25 per cent below the prices quoted by the Swedish cellulose makers, the orders are going to Finland

THE United States market is described as still lively and sales are proceeding in a satisfactory way Prices have a stiffening tendency

A BETTER tone prevails with regard to mechanical This has been induced by the strike in Norway, which is now settled and the fact that Swedish mills are turning out 40 per cent of normal capacity

ON account of the drought domestic paper mills are buyers of wet pulp at slowly rising prices

MOVEMENT of dry mechanical is reduced owing to the keen competition from Finland

EXPORTS of wood pulp during August are reported to be the highest of any month this year, amounting to 66,000 tons as compared with 41,000 tons during the corresponding month last year

THE total for the first eight months of the year was 175,000 tons, against 575,000 tons during the same period of 1920

United States

AN improvement is reported in chemical pulp, both imported and domestic

PRICES have accordingly strengthened, and a stiffening of the demand is producing a much better feeling in pulp circles

KRAFT pulp is unmistakably firm in price and domestic manufacturers are quoting 250 cents per lb or higher on No 1 grade for 6 mill

SCANDINAVIAN kraft is quoted at 225 to 240 cents per lb at dock

IT is reported that a sale of 1,000 tons of news sulphite from Canada to a news print mill in the vicinity of New York, at slightly under 250 cents, has recently taken place

MECHANICAL pulp is still the strongest feature in the market and a better demand prevails now than has been the case for some time

IT is not only shortage of water which has produced this result, the chief reason is said to be that paper mills are more interested

THIS improved condition is expected to continue even after production of the material is normal

PRODUCTION of pulp during August shows a big falling off compared with the figures in the corresponding month of 1920, total production in August last year being 195,176 tons as against 305,695 a year before

PRODUCTION of mechanical pulp went from 111,205 tons in August last year to 73,666 in the last recorded month

BLEACHED sulphate fell from 71,818 tons to 50,517 and bleached sulphite from 50,654 tons to 24,157

UNDER the heading of sulphate pulp, output is shown to have declined from 20,749 tons to 16,629 in August this year, while soda pulp fell from 37,617 tons to 19,303

MITCHELLS declined from 7,142 tons to 5,662, and easy bleaching sulphite from 6,398 tons to 4,912

Canada

A SOMEWHAT better feeling prevails in the pulp market

ALTHOUGH the prices both of chemical and mechanical wood pulp have not changed, the tendency is to harden

ORDERS, however, are only coming forward for immediate requirements

IMPROVEMENT is said to have taken place in the paper trade generally, therefore it is anticipated that pulp will follow on the same lines

DEMAND for pulp wood is limited, most of the pulp and paper mills, it is said, being well supplied for the coming season

A DESCRIPTION of the pulp wood market is that there is plenty of wood but little demand

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BRITISH IMPORTS OF CHEMICAL AND MECHANICAL WOOD PULP.

For the week ended October 8th, 1921.

COMPILED FOR THE 'WORLD'S PAPER TRADE REVIEW,' BY ARRANGEMENT
WITH THE BRITISH WOOD PULP ASSOCIATION

An Official Account of the Registered Quantities and Values of Chemical and Mechanical
Wood Pulp Imported at the various Ports of the United Kingdom.

BLEACHED CHEMICAL DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Oct 4	London	Thule	Gothenburg	44	1	210
" 4	"	Ortolo	Rotterdam	141	24	510
" 6	Hull	Calypso	Christiansia	60	10	240
" 7	Newcastle	Stelling	"	60	10	240
" 7	Aberdeen	Glen Tilt	Fredrikshald	450	40	4,164
			Deduct to Amend			
Sept 23	Hull	Calypso	Christiansia	210	35	572
						W. Arkroyd & Co

UNBLEACHED CHEMICAL DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Sept 20	London	Lizona	Christiansia	540	65	2,124
" 20	"	"	"	100	180	4,040
" 20	"	"	"	460	9	1,444
Oct 7	"	Matta	Stockholm	1,111	261	16,090
" 4	"	Alle Jall	Kotka	174	24	420
" 4	Bridgewater	Yra	Wistafarf	4,560	700	27,181
" 6	"	"	Skutskari	2,000	340	6,295
" 6	"	"	"	760	95	2,445
" 4	Grimshy	Stella	Kotka	1,111	261	9,000
" 8	Hull	Calypso	Gothenburg	490	70	2,340
Sept 29	Manchester	Melford Hall	New York	150	22	682
Oct 5	"	Boerderland	Hamburg	10	11	171
" 4	Preston	Halmengia	Wallark	2,400	400	4,000
" 7	"	Klonsterfos	Diammen	925	155	7,000
" 7	Aberdeen	Glen Tilt	"	1,000	200	7,545
" 7	"	"	"	300	50	1,545
" 7	Grangemouth	Alice	Halle	2,175	475	23,977
" 7	"	Gothr	"	2,150	480	20,496
			Deduct to Amend			
Sept 21	Aberdeen	Askeladden	Port Alfred		1	20
						Becker & Co Ltd

CHEMICAL-WET

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Sept 20	Dublin	Dago	Christiansia	2,359	672	8,579
						Irish Paper Mills, Ltd

MECHANICAL-WET

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Oct 7	London	Torcello	Christiansia	1,300	250	1,280
" 7	Preston	Klonsterfos	Fredrikshald	3,000	600	2,240
" 5	Shields	Ragni	Arendal	5,675	1,165	4,740
" 5	"	"	"	250	50	510
" 7	Aberdeen	Glen Tilt	Diammen	1,225	215	2,818
			& Kingoro			
			Deduct to Amend			
Sept 21	Aberdeen	Askeladden	Port Alfred	12	2	94
						Becker & Co, Ltd

Logwood Extract

JOSEPH SINGLETON.

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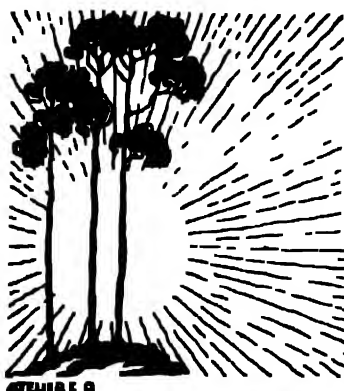
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A Pulp-Wood Dam.

An Impressive Structure of Concrete and Steel.

Some idea of the operations which are necessitated in bringing pulp wood to the mills is given by a description of the concrete and steel dam which has been constructed on the Penobscot River, Bangor Maine. Pulp wood driving on the west branch of the Penobscot is over for the season, and the records show that there were sluiced through Ripogenus dam 268,000 cords of four foot wood, equal to 134,000,000 board feet. All of this wood belongs to the Great Northern Paper Co., which has extensive mills at Millinocket and East Millinocket, further down the river, the greater part of it was cut on lands owned by the company, and its free movement was greatly facilitated by the vast improvements made in the driving of the west branch by the Great Northern Co., chiefly in the erection of the great dam at the foot of Chesuncook Lake and just at the head of the far famed Ripogenus Gorge.

By the erection of this dam, an impressive structure of concrete and steel, as the *Christian Science Monitor* describes it four lakes and five ponds were merged into one body of water, which varies from half a mile to several miles in width and is over 30 miles long. The dam,

which is 96 feet high and 900 feet long cost more than \$1,000,000, was three years in course of construction, and was completed in 1916. It effectually controls the waters of the west branch, something never accomplished with the old wooden dams, and now the tremendous volume of the spring freshets instead of rushing away idle to the sea, and as often happened causing destruction along the river from Chesuncook to Bangor, is held in storage until such time as water is needed for the mills of the Great Northern or any of the other industries of the Penobscot.

The massive gates are operated by electric power, generated by a gas engine, and with the turn of a wheel or the opening of a switch one of the men in the power house surmounting the dam can release the torrents or check their flow. This power house is electrically lighted and steam heated, and the crew in charge of the dam have a comfortable if somewhat lonely existence up there in the heart of the Maine wilderness.

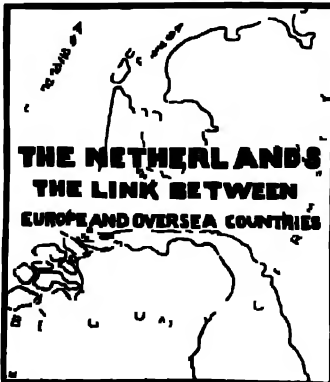
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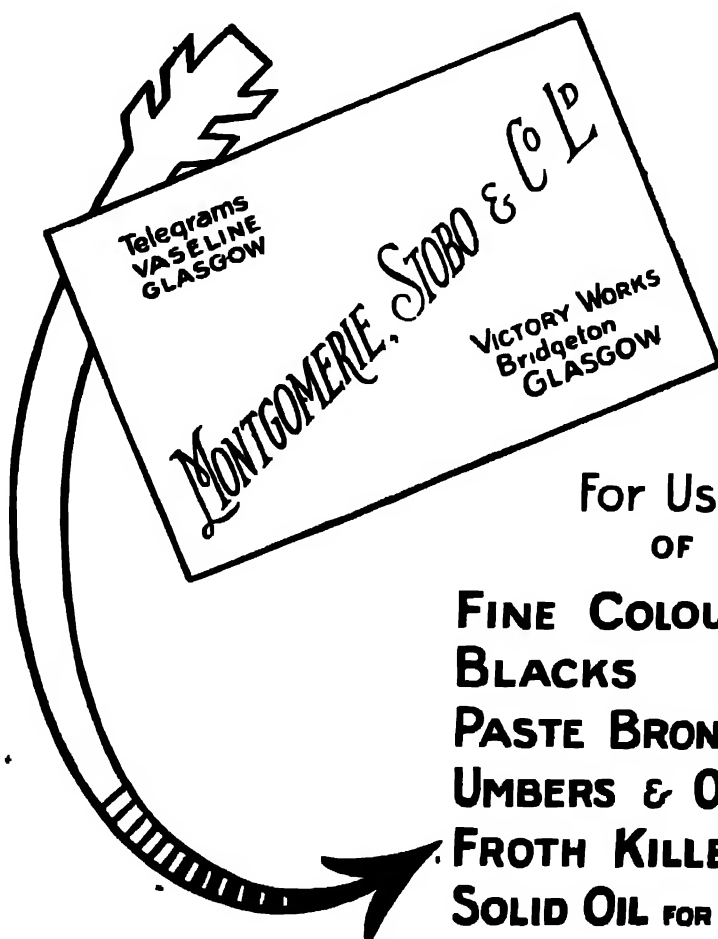
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The "Tremor" Strainer.

A New Departure Emanates
from Watford

The "Tremor" Strainer (either inward or outward flow) made by the Watford Engineering Co., of Lower High street, Watford, of which we present an illustration, combines some new and useful features which are being appreciated in paper mill practice.

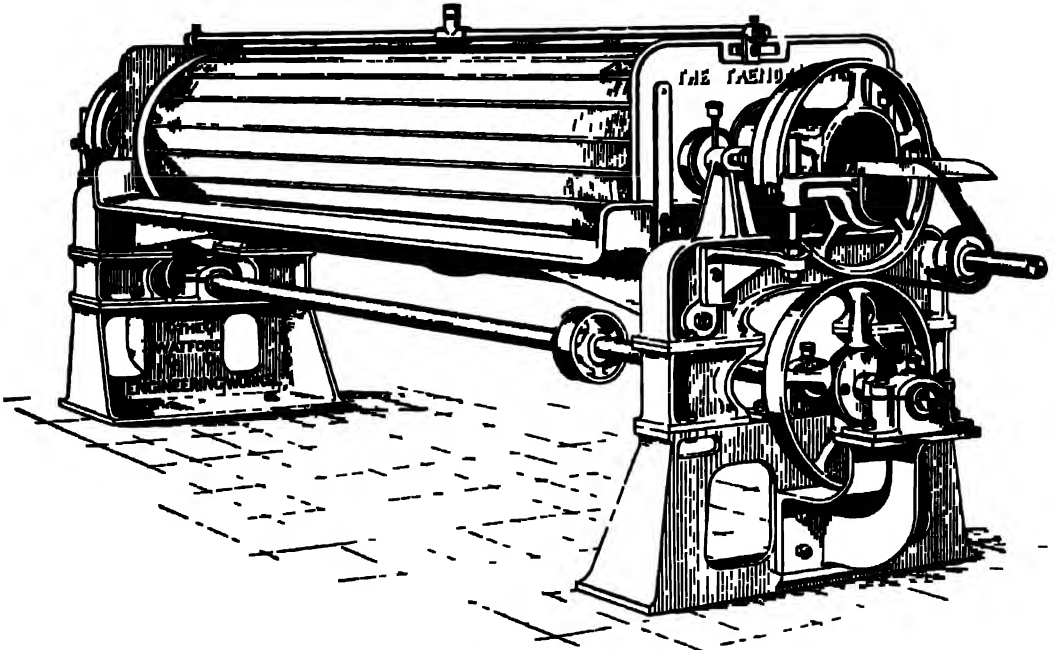
The "Tremor" Strainer is of the Wandel type, having a positive silent drive and a positive rotating drum for washing purposes. Regular rotation is a very great asset as it is well known, that with strainers, although

which will give satisfactory results for nearly all classes of stuff.

As well as varying the "dither", the driving shaft can be fitted with a cone to vary the speed, or, in the case of group driving, the driving shaft used for driving the strainers can be fitted with a cone so that the speed may be altered as well as the "dither" varied, for arriving at the correct average speed before finally fixing the best speed to suit the various classes of furnish.

It will be noticed that the compound eccentrics are fitted within the boss of loose pulleys, the latter forming the housing of the roller bearings encircling the eccentrics and rendering them perfectly watertight.

The main shaft revolves at about 600 r.p.m., but the pulleys forming the housing of the roller bearings are free to revolve freely and slowly at will. The drum ends have pulleys



THE "TREMOR" STRAINER

having a good "dither", the drum not revolving at a regular speed makes an ebb and flow in the delivery, but provision has been made in this machine to drive the drum irrespective of the main strainer shaft, in order to get any desired speed of same.

The drum is mounted directly upon a compound eccentric at either end of the strainer, the eccentrics turned upon the driving shaft having a loose eccentric bush round same, which is graduated to allow the throw to be altered for varying the "dither" of the drum to suit different furnishes that may be put through the strainer, although in many cases it happens that a fixed "dither" is arrived at

fitted upon them, which rest upon the pulleys forming the housings of the eccentrics both revolving in unison at any desired speed. The small lay shaft shown, with the belt passing over same to the drum pulleys is revolved at about 4 r.p.m. which rotates the drum at about 1 r.p.m. for washing purposes.

One of the big advantages found with this strainer is, that the motion employed for producing the "dither" is very easy, and not a harsh knock caused by the teeth of the ratchets, as used in the earlier machines, the advantage being that the refuse is now able to be carried to the top of the drum to be finally washed off into the refuse tray. By the

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old method, the vibration was so great that the refuse etc., before reaching the top of the drum, was knocked off and simply fell back to the bottom of same.

The position of the drum is maintained by means of guide wheels at either side of the drum ends, to locate its position both length wise and sideways, thus allowing the roller bearings used as eccentrics to have a very free movement.

Provision has been made in the vat for lining with tiles when required and the lip runs the whole length which allows the stuff to flow from the strainer very freely without causing "sops".

Particular care has been taken to avoid splashing, guards being provided at either end of the machine. These carry the adjustable spray pipe which has a fin running parallel with the holes to direct the spray water directly to the drum, the end guards preventing side splash.

Special provision has been made for lubrication, patent lubricators being used where required the main journals being self oiling and fitted in watertight housings.

It will be noticed that there are no reciprocating parts in the strainer, consequently the wear and tear is reduced to a minimum and the machine runs perfectly silently. The pulleys on the drum ends and those forming the eccentrics never separate, consequently there is no hammering gravity being quite sufficient under all conditions to keep the peripheries of the pulleys in contact. As the drum ends are held in position by guide wheels only there is no wear upon them and as both are driven simultaneously there is no torque or twisting on the mantels.

To rotate the lay shaft (when not convenient to drive directly from the mill shafting) a small reducing gear box is supplied the worm and wheel running in oil one box being sufficient to drive one to six strainers. The gear box acts as a governor to the drum as the latter (turning upon roller bearings) is

so free, that it is practically self rotating, in unison with the eccentrics.

The drums supplied are of the well known light vibrating type, manufactured by the Watford Engineering Works, Ltd., for so many years, the mantels being either sawn slits or fitted with the 'Lloyd Martin' patent, with circular holes for "new print," the latter mantels having proved so satisfactory since their application to the "machinists' strainers."

We understand that the Watford Engineering Works Ltd. also apply the "Iremor" patents to jog knotters the compound eccentrics being used under the jog arms in place of the usual noisy ratchets and hammers as originally employed, and as a positive dither is given to the plate frame, a larger quantity of stuff is passed.

It will be noticed from the illustration that the whole of the mechanism is fitted upon the end stands, which enables existing strainers to be converted to the 'Iremor' patents, by utilising existing vats, drums spray pipes etc. Both single and duplex Wandels can be converted.

The strainer has been fully protected for both home and abroad. The working tests having proved so satisfactory, orders have been placed with the Watford Engineering Works Ltd., for groups of these machines, for one of the new Kentish mills now being equipped. Several more important orders are pending both for this country and abroad.

We understand that in the meantime the machine for foreign countries will be constructed abroad but will be fitted with the mantels manufactured by the Watford Engineering Works, Ltd., as to a great extent the output of this strainer (and in fact, of most strainers) is greatly augmented by the use of an appropriate mantel.

The Danish paper industry has decreased its output to one third of normal, while imports are now 16 per cent higher than in 1913.

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Paper Standardisation.

Official Conference in U S A

The standardisation of paper formed the subject of a conference of allied interests in Washington and the proposals submitted indicate the scope and importance of the subject.

Those attending at the conference represented the American Paper and Pulp Association, the Technical Association of the Pulp and Paper Industry, the United Typotheta of America, the American Engineering Standards Committee several paper manufacturing companies and merchants and several representatives of the Bureau of Standards. Several committees were formed to take up the following phases of standardisation and report back to the Bureau: Classification, Definitions, Simplification and Specification.

A memorandum submitted to the conference defined the purpose of standardisation in the following paragraphs:

1. Simplification by standardisation tends to produce economy and to eliminate waste in the manufacturing process. Such standardisation is not intended to reduce all the products to any pre-determined level but to eliminate unnecessary and wasteful sizes, weights and qualities.

2. The development of reasonable specifications for various grades of paper will tend to eliminate those specifications which work a hardship on the manufacturer but will permit of the use of specifications which will assist and protect the consumer.

Factors in Standardisation

Under the heading of 'Classification' it is proposed to group the various grades of paper as much as possible according to the use to which the paper is to be put. This is not possible in all cases, but seems desirable since the qualities desired in a paper can only be determined by the purpose for which the paper is purchased.

The following table shows the approximate relative importance in tonnage of various groups:

A - War Industries Board 191b Boards, 304, news and hanging, 233, wrapping 168, book and cover, 153, fine (writing,

bond, etc. 58, building, 53, tissue 20 specialties, 09, blotting, 02

B - American Paper and Pulp Association 1920 News, 206, board 318, book 151, wrapping 143, line, 53, tissue, 24, hanging, 15, felts and buildings 87, all others 43

The following is an outline of a suggested classification: (a) ground wood paper containing more than 60 per cent wood, (b) printing paper, (c) fine paper, (d) wrapping, (e) boards, (f) miscellaneous, (g) specialties, (h) paper and pulp products.

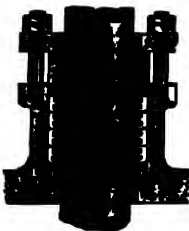
Coming to definitions and nomenclature the memorandum says: The use of terms and names of grades of paper is very indefinite and in many cases the words used have little value. It is suggested that this phase of standardisation be studied by a small group and suggestions made. This phase has special significance in connection with export trade.

As to simplification of sizes and qualities, a large economy may be obtained by the reduction in the number of issues and also in the number of qualities of paper in any one class. This will affect the manufacturers almost immediately and permit of longer runs on the machine and greater use of the full width of the machine. Two other factors must be given attention in reference to the simplification of sizes: (a) the reduction in the number of sizes of printed matter and (b) the better design of paper machines to permit of full use of the width of the machine. The regulations of the War Industries Board and the manufacturers' trade customs will assist in this.

Specifications of Quality

All the qualities desired in a specific sheet of paper cannot be defined numerically but it is the purpose of research to develop methods for this purpose in order to determine quality and uniformity. Some of the qualities which it is difficult to measure at this time are: permanency, feel, texture, finish, rattle, formation, fastness of colour, softness, printing quality, erasure quality, etc. Those that may be measured are as follows: Weight, thickness, bursting tensile, folding and tearing strength, ash, sizing, fibre composition, glare, opacity, dirt absorption, elongation.

The actual specifications for a given sheet of paper must be determined by the use to



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which it is to be put. It is thought that requirements for various purposes may very easily be determined. It is necessary to determine what qualities of paper are of importance for a specific use, the relative importance of these qualities, which of these qualities may be determined numerically, and, finally, what numerical value is to be given to the quality for the purpose in mind. It is of greatest importance to consider that in many cases, the qualities that are measurable are of minor importance to such qualities as, for instance, printing quality, feel, texture. The lack of consideration of this factor has caused considerable hardship at times. Such specifications when developed will be available for those who wish to use them.

Test Methods and Sampling

As in all testing two things are necessary, viz. (a) proper sampling and (b) standard methods of testing. The former is not considered as much as it should be for it is almost as of much importance as the testing itself.

The methods of testing paper are already more or less standardised and depend in large measures on the instruments and apparatus used. Improvement can be and should be obtained, however, and new methods and instruments will assist more in the determination of the quality and uniformity of paper. Standard methods of testing will be submitted in detail in the near future with suggestions as to experimental tolerances.

In connection with the use of specifications, it is of importance to consider the closeness with which the material must conform to the specifications. This should be a definite part of the specifications. These specifications may be made in such a way that a minimum or maximum quantity is specified. Or they may be made to specify a given quantity with a tolerance within which the quality must fall. In addition, it is possible to consider the relative importance of the qualities and thus have an additional tolerance. Experimental tolerance, due to the error of the method or the testing instrument should be applied before the report is made out.

It is important to be able to revise and correct any phase of standardisation work, as changes occur in the use and testing of the material. A permanent organisation should therefore at regular intervals discuss and revise the specifications.

High Speed News-Print.

The two new machines recently installed by the Laurentide Co., the output of which is sold to the New York Times under a five year contract at current market price are stated to be running very satisfactorily and are gradually tuning up to the speed for which they were built.

Recently it is stated one of the machines reached a speed of 1047 feet per minute on high grade news print of best quality, thereby setting up a new world's record. The speed of this machine is said now to be averaging from 1010 to 1040 feet per minute and the management looks forward to an ultimate speed of 1,100 feet per minute. Before paper was put over these machines they were thoroughly tested mechanically and were run up to a speed of 1200 feet per minute without paper so as to make sure that all parts were suitable for high speed operation.

When the Laurentide Co. installed Nos. 8 and 9 machines the objective set up was 1000 feet of news print per minute, and this speed was actually obtained many months ago on a test but was again lowered in order to assure high quality of product.

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Strength in Fibre Boxes.

The direction in which the fibres run in fibre board boxes has been found to have a considerable effect upon the serviceability of the boxes. Fibre board does not tear as easily across the grain as with the grain, it may have two or three times as much strength in one direction as in the other the difference varying with manufacturing conditions. This excess of strength may be advantageously used to reinforce the weakest points of the box and so produce a better balanced construction.

The weakest parts of the fibre boxes are the scores or folds forming the edges of the box. It is impossible to have the fibres running perpendicular to the scores which receive the hardest punishment or which tend to break open first. The location of the scores most liable to failure of course varies with the shape of the box and the nature of the contents and can best be determined by test. The following comments and deductions are for boxes whose depth is less than their width.

In tests at the U.S. Forest Products Laboratory on fibre boxes some packed with two dozen No. 2 food cans and some with four dozen tall sized milk cans it was found that the first break usually always occurred in the horizontal end scores. By making up the boxes so that the fibres run vertically instead of horizontally in the sides and ends, the first break throughout the length of a horizontal end score was retarded about 85 per cent. Through the same change, the horizontal side scores which received the next hardest punishment were strengthened so that the first break never occurred in them.

The gain in strength of the horizontal scores was of course, accompanied by a weakening of the vertical scores. But since the upright scores do not ordinarily receive as great stress as the horizontal scores and in these particular tests were not as likely to come in contact with the sharp edges of the cans they were able to stand a reduction in strength and yet not become the point of first failure.

Wrappings and Boards Active.

Increased demand and an upward trend in prices have marked the wrapping paper and board market during the last week in September in Canada, according to reports reaching the Canadian Pulp and Paper Association. The market for these commodities, which has been more or less stationary for some months, has become suddenly active. Paper stock from which boards are made and which was recently selling at so low a price that collectors refused to make their customary collections is now quoted at from \$16 to \$18 a ton, and in brisk demand both locally and for export. Canadian collectors are shipping part of their accumulations to the States and profiting by the increased price and the exchange premium. This is making a shortage of paper waste in Canada, and indicates a higher price for boards. The improved tone in the market for these grades of paper is said to reflect the general tendency of the paper market.

Costs in India.

A papermaking correspondent in India sends us an extract from the *Statesman* regarding the cost of living in India which he thinks will be of interest to readers in this country in view of the fact that so many travellers connected with the paper trade are going to India during the cold season. Cost of living in India it is pointed out continues to increase and is said to be nearly twice as dear as in England. Food stuffs have gone up and a flat in Calcutta which was Rs. 200 a few years ago is now Rs. 500 or 600.

'I am not in love with Germany by any means,' said a Calcutta trader, 'but I cannot help saying that the re-appearance of imports from the country of our late enemy will be welcome here. England produces goods of excellent quality, but at a price which has risen by leaps and bounds to an unbelievable extent during the past few years.'

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Paper Market Recovery.

Conclusions Drawn from U S. Statistics

The Canadian Pulp and Paper Association draws some encouraging conclusions from the Federal Trade Commission statistics covering the American paper industry for August. These, it is pointed out, indicate a considerable improvement in the relative position at the end of the month as compared with its beginning. Production of all grades of paper by the mills covered in the report totalled 442,519 tons, while shipments amounted to 448,054 tons, shipments exceeding production by 6,535. Stocks on hand at mills amounted to 274,009 tons at the end of the month compared with 279,544 tons at the beginning, a reduction of 5,535 tons.

Every kind of paper showed a decrease in stocks on hand except news, print of which stocks had increased by 1,609 tons. Book paper stocks decreased 2,409 tons, paper board 1,444, boxboard 2,257, wrapping 1,101, bag 309, fine paper 1,481, tissue 634, hanging 667, felts 1,481, miscellaneous 1,153.

News print stocks equalled six days average output of all mills, book paper, 11 days, paperboard, 9 days, wrapping paper, 26 days, bag paper 5 days, fine paper, 32 days, tissue paper, 14 days, hanging paper, 33 days, felts and building paper, 9 days, and miscellaneous, 22 days. Average output.

Shipments of pulp of all kinds for the month totalled 39,544 tons, which, added to 186,362 tons used by the producing mills, made a total of 225,906 tons used or shipped against a total production of 195,176 tons, an excess of used and shipped over production of 30,530 tons. Stocks on hand showed a decrease of 30,730 tons during the month. Groundwood pulp stocks at the end of the month equalled

35 days average output of reporting mills, news sulphite, 9 days', bleached sulphite, 2 days', Mitscherlich sulphite, 9 days, sulphate, 15 days, soda pulp, 7 days', and mill stocks of other than wood pulp, 4 days average output. The total mill stocks of all grades on hand at the close of the month equalled 20 days' average output.

The inference to be draw from these figures is that increased activity in all pulp and paper mills is imminent. With shipments exceeding production in practically all lines, and stocks on hand showing serious depletion, it is inevitable that an exhausted market must shortly result in increased demand and a general betterment of the industry's situation. There are indications that the increased demand is already making itself manifest.

Plastic Fibre Compositions.

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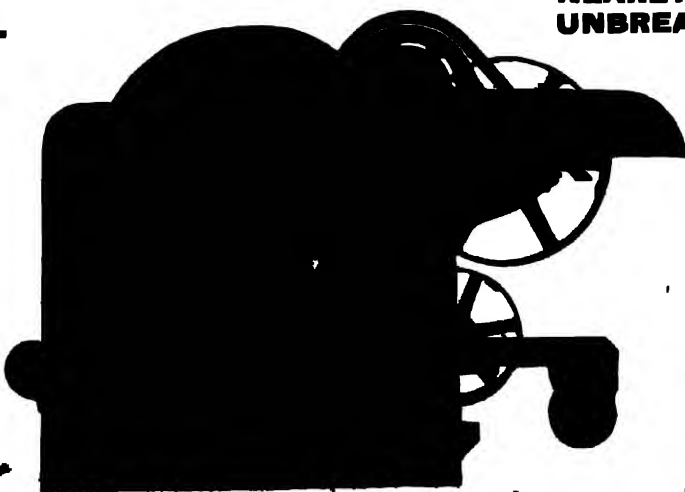
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Strawboard Supplies.

The countries supplying the British market with strawboards during September were as under —

Port of Importation	Country whence Consigned	Quantity Cwts	Value £
London	Germany	20	10
	Netherlands	55,011	29,149
	Belgium	540	378
Liverpool	Germany	91	131
	Netherlands	2,114	2,148
Gosle		12,974	6,719
Bristol	Germany	6	2
	Czechoslovakia	205	145
	Netherlands	10,454	7,827
Grimsby		10	19
Hull		12,325	4,568
Newcastle		500	970
Manchester		11,439	5,647
Plymouth	Belgium	14	12
	Netherlands	100	63
Stockton		80	82
Grangemouth		697	560
Leith		6,317	5,581
Cork		120	59
Belfast		901	673
Dublin		260	322
Total		144,788	74,419

British Imports of Millboards.

During September the following consignments of millboards were received at British ports —

Port of Importation	Country whence Consigned	Quantity (cwt)	Value £
London	Finland	1,154	1,172
	Sweden	4,767	5,085
	Norway	1,282	1,543
	Canada	1,441	3,675
	United States	470	804
Liverpool	Germany	1,576	1,301
	Netherlands	180	95
	Sweden	20	20
	Norway	89	48
	Canada	6,374	8,470
Bristol	United States	1,477	2,543
		311	510
	Germany	1,374	770
	Sweden	5,315	5,498
	Norway	778	1,818
Grimsby	Germany	78	66
	Netherlands	14	18
	Canada	1,116	2,544
	Czechoslovakia	280	186
	Norway	89	112
Hull	Germany	110	12
	Belgium	415	333
	Canada	574	1,186
	Sweden	8	18
	Canada	600	940
Leith	Germany	40	84
	Canada	580	1,085
Dublin		497	625
Hull	Add to amend August — Norway	—	2,106
Total		27,998	41,990

Hull	Deduct to amend August — Norway	260	—
Manchester	Germany	295	288
Total		27,510	41,708

Cardboard and Pasteboard.

The receipts at British ports of cardboard and pasteboard during September were —

Port of Importation	Country whence Consigned	Quantity Cwts	Value £
London	United States	854	1,971
	Germany	832	1,102
	Netherlands	13	17
Liverpool	France	228	243
	Germany	116	466
Bristol		9	11
Gosle	Sweden	4,667	10,176
	Netherlands	4	11
Harwich		7	28
Hull	Belgium	1	5
Manchester	Germany	444	298
Newhaven	Netherlands	912	770
		60	46
Southampton	Switzerland	6	26
Aberdeen	United States	20	40
Dundee	Germany	5	33
Glasgow	Sweden	40	52
Grangemouth		25	34
Leith	Norway	293	284
	Germany	2	14
"	Sweden	322	638
	Germany	50	241
"	Belgium	22	91
Total		7,418	18,947

London	Deduct to amend, August — Denmark	474	327
Liverpool	France	4	59
Liverpool	Deduct to amend May — Netherlands	95	500
Liverpool	Deduct to amend July — Netherlands	20	1,151
Total		6,820	16,908

* Under query subject to amendment † Including Faroe Islands

Leatherboards.

The imports of leatherboards into the United Kingdom during September were as under —

Port of Importation	Country whence Consigned	Quantity Cwts	Value £
London	Sweden	1,410	1,970
	Denmark	517	567
	Germany	880	295
Grimsby		15	27
Manchester	Sweden	4,688	4,908
	Germany	235	195
"	Austria	290	508
*Including Faroe Islands			
Total		7,865	9,240

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Chemicals.

The demand for chemicals has been slightly better and the market generally is reported as being a little more steady. AMMONIA ALKALI is in very fair request at £8 17s 6d to £9 per ton for the home trade and £10 5s to £10 10s per ton for export. BLEACHING POWDER, in improved demand, is £15 per ton for the home trade and £16 to £16 10s per ton for export. CAUSTIC SODA, in active inquiry, for locally made brands is quoted £25 to £26 per ton for 76 per cent, £24 to £25 per ton for 70 per cent, and £23 to £24 per ton for 60-62 per cent, carriage paid. SALT CAKE is in limited demand and is £6 to £6 10s per ton in bulk, and £7 per ton for export. ALUM is quiet and English make is quoted £16 to £17 per ton for home trade uses, and £16 to £16 10s per ton for export. SULPHATE OF ALUMINA is in fair request at £12 10s to £15 per ton, according to grade. SULPHUR in moderate inquiry, is quoted English Flowers £16 to £16 10s per ton. Roll £15 to £16 and Rock £13 to £14 per ton. Sicilian grades Flowers £13 10s per ton and Roll £13.

Chemical Wood Pulps.

The improvement which has recently been noted in the pulp market not only remains but has increased. Better inquiries are forthcoming and business is resulting. Agents, therefore, look forward to the future with greater hope.

Mechanical Wood Pulps.

The strong tone continues to dominate the mechanical pulp situation. Scarcity of the material has been due to two causes—the strike in the Norwegian mills (which is now settled) and the scarcity of water in the South of Sweden. The settlement of the strike will enable mills to resume production, but notwithstanding this the position of the market will continue. Prices, consequently, have risen.

Home Rags.

The market for home rags is reported to be in a better state, although the amount of business going through is limited. With more tempting prices, however, business is likely to result.

Waste Papers.

The position in regard to waste papers is that there has been a revival during the past two or three weeks but it has not been generally sustained. There is, however, a firmer tendency and prices are hardening.

Colours.

Trade is reported to be very quiet, with little or no demand, due to the fact that papermakers all over the country are complaining of lack of orders.

Sizing.

The market for sizing materials is said to be distinctly firmer and much more demand is experienced. Prices are adjusting themselves.

Loadings, etc.

Prices for china clay and other loadings remain steady and are subject to some slight reduction if good orders are offered. Buyers however appear reluctant to come forward to any extent. Home trade is moderate, and export has fallen off. Accordingly stocks of clay are heavy and moderate amounts of mineral white and barytes are held. In some directions it is not expected that much improvement will take place before March.

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CHEMICALS.

Quotations are nominally as follows — £ s d

Alkali, Ammonia, 52%, for works	8 12	6
Alum (Ground) tierces for b L'pool	24 2	
" " tierces	24 2	
" " tierces	24 2	
" " tierces	24 2	
" (Lump) tierces	24 2	
" " tierces	24 2	
" " tierces	24 2	
Alumina Sulphate 24% bags for Tynes	11	0
" " Hydrate 50% 24% bags for Tynes	13	0
Alumino-ferric Cake, slabs Liverpool	7 10	0
Alumina Cake, slabs Glasgow	9	0
Barium Chloride for Tynes	15	0
Blanc Fixe	20	0
Bleach (soft wood) carriage paid	15	0
" (hard wood) for b L'pool net	27	0
Borax (crystals) for b L'pool net	34	0
" (powdered)	34	0
Caustic White, 77% { for b net 26 0 0		
" " 70% { Liverpool net 24 0 0		
" " 70% { for export net 24 0 0		
" " 70% car paid	25	0
" Bottoms for Lanes net	19	0
Sulphite of Soda, 5-7 cwt cks for Tynes	12	0
Sulphite of Soda " Tynes net	12	0
Oxalic Acid for b L'pool net par lb	8	0
Soda White for b London	13	0
" " Manc net	13	0
Sol Ammoniac (Fristal) lump for Widnes net	65	0
Salt Cake (Seconds) per ton	6	0
Soda Crystals (Bags) Tynes 1 ton min	7	0
" " ex Wharf	7	0
" " for b L'pool net	7	0
Sulphate of Ammonia delivered	24	0
Sulphate of Copper for b L'pool 30	0	10
Sulphur, rolls, bags for 17	0	10
" rock net	11	0

CHEMICAL WOOD PULPS**GREAT BRITAIN**

F o b prices, with freight and insurance, work out as approximately, for ton c i f U K ports —

Sulphite, Bleached, 1st Quality	£40	0	0
" " Easy Bleaching, 1st Quality	14	0	17
" " "Kraft" or Strong Quality	10	0	17
Soda, Unbleached, 1st	11	0	14
" " Kraft or Strong	10	0	13

NORWAY

Per ton f o b, net cash

Sulphite, Bleached	Kr	813
" " Easy Bleaching		500
" " Strong		450
Sulphate, Easy Bleaching		475
" " Kraft		450

SWEDEN

Per ton, f o b net cash

Sulphite, Extra Bleached	Sw K	350-360
" " Easy Bleaching		275-300
" " Strong		210-250
Soda, Easy Bleaching		270-300
" " Kraft		200-210

FRANCE

Prices c i f Rouen, per 100 kilos (2 cwt), based on actual rates of freight and exchange

Sulphite, Bleached, Superior	Fr	110-120
" " Ordinary		90-100
" " Easy Bleaching		80-85
" " Unbleached, Strong Prima		6-70
" " "Secunda		60-65
Soda Pulps Bleached Superior		120-130
" " Easy Bleaching		70-75
" " Strong Unbleached, Prima		60-65

UNITED STATES

Foreign, 12 Deck —

Sulphite, Bleached	Dols	3 75-4 50
" " Easy Bleaching		3 00-3 50
" " Unbleached		2 50-3 25
Sulphate, Bleached		3 75
" " Unbleached		—
Kraft Pulp		2 25-3 75

Domestic delivered Mill —

Sulphite, Bleached		3 75-4 50
" " Unbleached		3 00-3 50
Soda, Bleached		4 00

CANADA

Sulphite, Bleached	60	00-70
" " Easy Bleaching	65	00-70
" " Strong	55	00-60
Sulphate, Kraft	60	00-65

MECHANICAL WOOD PULPS.**GREAT BRITAIN**

F o b prices, with freight and insurance, work out as approximately, for ton c i f U K ports —

Pine, 30% moist, unwrapped, prompt forward delivery	£4	0	0-4 5 0
" " dry, prompt delivery	7	13	0-8 5
" " forward delivery			

NORWAY

Per ton f o b

Pine, 30% moisture	Kr	25
" " dry		250

SWEDEN

Per ton, f o b Net Cash

Pine, 30 per cent moisture	Kr	57-60
" " dry		110-120

FRANCE

Prices, c i f Rouen, per 100 kilos (2 cwt), based on actual rates of freight and exchange

Pine, 30% moisture	Fr	40 00-50 00
" " dry		25 00-30 00
Aspen, " fine dry		100 00-120 00

CANADA

Per ton (net mill)	Dols	30 00-40 00
--------------------	------	-------------

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C I F U A Port

Spanish—First Quality	£6 12 6
Gran	"
Bona and Philippville—First Quality	4 5 0—4 10 0
Esax and Gabes—First Quality	4 5 0—4 10 0

SOME RAGS.

Nominal Prices

LONDON			
N White Cuttings	36/6	London Thirde	4/6
New Prints and		Country "	5/6
Solinas	30/6	Canvas, No 1	36/6
New Duck Cut-		" No 2	31/6
tangs (Govt)	45/6	" No 3	2/6
Fines (selected)	30/6	Mixed Rope	5/6
" (ordinary)	25/6	White Strings	45/6
Outshots	18/6	White Manila	18/6
London Seconds	4/6	Rope	24/6
Country	12/6	Cell Rope	2/6
Soft "	10/6	Bagging	4/6
		Gunny	4/6

BRISTOL			
Fines	28/6	Clean Canvas	20/6
Outshots	19/6	Second Canvas	17/6
Seconds	14/6	Light Prints	15/6
Thirde	4/6	Hemp Cell Rope	15/6
Mixed Bagging	3/6	Tarred Manila	10/6

MANCHESTER			
Fines	30/-—35/-	Blues	9/-—11/-
Outshots (best)	18/-	Bagging	3/-—5/-
" (ordinary)	15/-	" (common)	3/-
Seconds	10/-—12/-	W Manila Rope	14/-
Thirde	4/-—5/-	Burat Tares	3/-—5/-
Prints	7/-—9/-	Gunny	8/-—9/-
Selected Prints	14/-—18/-		

EDINBURGH			
N Unbleached		Light Prints	
Cottons	48/6	(extra)	19/6
N Light Prints	36/6	Dark Prints	15/6
N Dark	24/6	W Manila Rope	24/6
N Blue Dungarees	40/6	Tarred	13/6
Superfines	38/6	" Hemp	37/6
Outshots	30/6	No 1 Bagging	6/6
Best Seconds	25/6	No 2	4/6
Ordinary Seconds	17/6	Common	2/6
Thirde	14/6	Blue Cottons	19/6

GLASGOW			
Best Fines	25/6	N Lt Flannelettes	35/6
Second Fines	19/6	W Manila Ropes	28/6
Ordinary Seconds	14/6	Tarred Manila Rope	20/6
Common Seconds	9/6	Tarred Hemp Rope	17/6
Old Best Lt Prints	19/6	No 1 Canvas	37/6
Old Clean Prints	9/6	Second Canvas	22/6
New White Shirt		New Rope Ends	8/6
Cuttings	55/6	Best Clean Bagging	5/6
New Light Prints		Common Bagging	1/6
and Solinas	35/6		

FOREIGN RAGS

Prices c i f Thames

Extra Linens	60/6	Blue Linen, No 1	40/6
White Linens, No 1	55/6	Portians	15/6
" No 2	40/6	Old Bagging (solid)	6/6
" No 3	35/6	" (common)	4/6
" No 4	20/6	Hemp, tarred in coils	40/6
" No 5	15/6	Hemp Strings	40/6
Grey Linens (strong)	30/6	New Cuttings	
" (extra)	60/6	White Linens	70/6
White Cottons, No 1	22/6	Unbleached Linen	70/6
" No 2	20/6	Grey Linen	7/6
" No 3	15/6	Extra White Cotton	70/6
" No 4	14/6	Ordinary	50/6
" No 5	10/6	Certain Cuttings	35/6
White Knitted	30/6	Stap	30/6
Manillas	20/6	Extra Light Prints	37/6
Extra Light Prints	20/6	Unbleached Cotton	70/6
Light Prints	14/6	Oxford	37/6
Dark Prints	6/6	Flannelette	30/6
Blue Cottons, No 1	14/6	Blue Cotton	30/6

BALING TWINE

Hemp	4	12d per lb	12d per lb	12d per lb
Mixed	4	12d per lb	11d per lb	—

WASTE PAPERS.

In Press-packed bales f.o.r

	per cwt
Cream Shavings	16 0—18 0
Fine Shavings	16 0—18 0
Second Shavings	14 0
Cartridge Cuttings	16 0
Best One Cut	10 0
White Woody Shavings	8 0
Manilla and Buff Cuttings	9 0—11 0
Woody One Cut	7 0
White Wood Pulp Cuttings	6 0
Pam Shavings (Light Colours)	6 0—7 0
Pam Shavings (Dark Colours)	5 0—6 0
Ledgers	10 0
Heavy Letter	8 0
Light Letter	4 0
Quire (Best)	8 0
Quire (Woody)	6 0
Best Pamphlets	6 0
White Woody Pamphlets	5 0
Coloured Woody Pams	4 0
News (Flat)	4 0
Crushed News	4 0
Kraft Browns	8 0
Light Browns	8 0
Mixed Browns	4 0
Leatherboard Cuttings	7 0
Coloured Cards	4 0
Strawboards	3 0
Mixed Papers	8 0

COLOURS. Nominal Prices, nett, delivered in Free

Packages	Per Ton	£ s d
Mineral Black	Per lb	10 10 0
Carbon Black (English)	Per lb	0 10 0
Carbon Black (American)	"	0 10 0
Ochre (English and Irish)	Per Ton	11 10 0
Ochre (Spanish), splendid		
barrels gross weights,		
cash free	"	16 15 0
Red Oxide 657	"	15 0 0
Red Oxide (Spanish)	"	20 0 0
Venetian Red	"	11 0 0
Burnt Turkey Umber	"	22 10 0
Brown Umber	"	10 10 0
Vandyke Brown Powder	"	25 0 0
Soluble Brown Crystals	"	18 0 0
Pulp	"	10 10 0
Prussian Blue Paste, 30% Z	Per lb	0 1 0
Prussian Blue Powder	"	0 2 0
Bronze Blue	"	0 2 0
Chrome (Pure)	Per Ton	15 0 0
Pure Zinc Oxide	"	48 0 0
Lithopone, 207	"	16 0 0
Paste Black, 32% Z	"	24 0 0

*According to Brand

ROSIN

Per cwt nett ex wharf London	B	F	G	K	N	V	G	W	W
American	17/-	17/6	17/6	18/6	19/-	19/6	23		
French				16/-	16/6	19/6			

In barrels tare 20 per cent in casks, tare 7 per cent

SIZING

Prices are nominally as under —	Per cwt	100k—125k
English Gelatine		—100k
Foreign		100k—125k
Fine Scotch Glues		100k—125k
Best Long Scotch Glues		120k—140k
Common Black Glue		—
"Town" Glues		100k—120k
"Bone" Glues		50k—70k
Foreign Glues		—
Bone Glue		—
Gelatine Glue		—
Fisher Waste	Per ton	£45—£55
Star Hide (Shavings, No 1)	"	45—55
Common Hide	"	35—40
Tanners' Wet Pieces	"	4—6

STARCH.

Delivered	£ s d
Malce—Crup	17 0 0
Pearl	17 0 0
Powder	17 0 0
Special (1 cwt bags)	17 0 0
Farina—Special	17 0 0
Prime	17 0 0
Rice—Granulated (in bags & ton lots)	17 0 0
Powder	17 0 0
Dextrine—Superior	17 0 0
Malce	17 0 0

LOADINGS, etc.

China Clay, in bulk, f.o.b. Cornwall, 35s to 75s (highest grade) per ton. The extra charges (including filling), per ton, for bags and sacks are: Single bags, 21s 6d double bags, 19s 6d, half-ton sacks, 23s 6d, quarter ton sacks, 25s 6d, in sacks, with extra iron hoops, 3s per ton more. Tals (Norwegian), 58 24s 6d to 611 21s 10d, per ton, according to quality, s.i.f. Hull or Grimsby.

French Chalk, W.E. and W.F.G. and other brands, 47 19s 6d to 48 19s 6d per ton, according to quality delivered in most papermaking towns, also f.o.b. Glasgow, Belfast, Manchester and London at same price.

Italian Chalk, finest brands—f.o.b. Manchester, Liverpool, Belfast, or London—I.W.A., 'Portland M.P.' and 'Dura', marks, 413 4s 6d to 418 per ton of 20 bags.

Superfine Hardening, delivered M.P., 56s per ton and up wards.

Patent Hardening (s ton lots), f.o.r. Lancs, 46 17s 6d.

Bauxite, minimum alumina 60%, 76s f.o.b.

Sulphate of Barytes, Grade No. 1, 46 19s 6d No. 2, 46 10s 6d, No. 3, 46 per ton, net, carriage paid. If ground 48 12s 6d per ton extra.

Mineral White (also known as Terra Alba, and Sulphate Lime), per ton f.o.r. at makers' works, less 24 7 —
Superfine, 1st and 2nd 67 7s—74 6s
Fine, best picked white, finely ground 64 6s—64 6s

Fine, second quality Pottery, best quality Pottery, No. 1 quality 64 6s—64 6s

Gypsum (Mineral), makers' works, 24 7 —

No. 1 71 6s Seconds 46 6s
Pottery 62 6s Thirds 46 6s
Ball Seconds 51 6s

Terra Alba and Gypsum delivered any Lancashire or Yorkshire station about 21s per ton extra, except Man- chester, which is only 19s per ton extra. Delivered London stations about 19s 6d per ton extra.

Papermakers' Finest, 46s and upwards per ton, less 24 7 carriage paid.

Magnesian (containing 94-96% Carbonate of Magnesia), raw ground, 413 10s 6d cleaned, 419 3s 6d

Magnesian (in lump), 47 10s 6d per ton

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Openings for British Trade, etc.

Inquiries have been received by the Department of Overseas Trade (Development and Intelligence), 35, Old Queen street, London, S W 1, to whom further inquiries should be addressed with the reference number quoted

BELGIUM

A recently formed Belgian company with offices in Brussels, are desirous of obtaining the sole agencies of United Kingdom exporters of glass paper and sand paper etc (Reference No 319)

ARGENTINA

An American firm of importers and exporters, and manufacturers commission agents in Buenos Aires having an office in London are desirous of representing United Kingdom manufacturers of stationery, etc (Reference No 335)

NEW ZEALAND

A firm established in Wellington are desirous of securing agencies for New Zealand from United Kingdom manufacturers of stationery and fancy goods. The principal of the firm has had considerable knowledge of the trade in the United Kingdom, and has good connections amongst firms in the Dominion interested in these lines (Reference No 285)

New British Patents.

Applications

- Harris, G I Paper bags 25,995
 Kaye, F Vulcanisation of rubber latex paper 26,665
 Morris, E I Means for slitting and reeling webs of paper 25,380
 Ritchie, A S and Ritchie and Sons Ltd W Stationery folders 24,699
 Soc Gaut Blancan, et Cie Apparatus for drying envelopes treated with varnish for rendering portions transparent 25,164

Specifications Published 1920

- Atomised Products Corporation Method of treating waste sulphite liquors and products obtained therefrom 14,874
 Marks, E C R (Hale Speciality Co) Calendar pads and holders therefor 168,753

Complete Specifications

Open to Public Inspection Before Acceptance
1921

- Exportingenieur für Papier und Zellstoff-technik Ges Treatment of paper, cardboard paper fabrics and like materials 160,676
 Lunemann F Treatment of fibrous materials with liquids 169,695

The wall-paper industry of Finland complains of foreign competition

Continental Paper & Pulp Companies

France

Among the new French companies is the Fabrique de Pâtes à Papier de la Somme for the manufacture and sale of rags and manufacture of paper, capital 1,500,000 francs; 16, Rue Jean Jacques, Rousseau Paris

Hungary.

The net profit of the Erst Ungarische Papier-industrie AG for the year to July 30th amounted to 3,526,125 crowns and a dividend of 18 per cent was paid 1,600,000 crowns being assigned to the decrease of value funds

Germany.

The union for the cellulose industry of Berlin has increased its capital from 4,000,000 to 8,000,000 marks

The profits of the Hegge paper mill of Kempten were 1,746,999 marks, giving a dividend of 20 per cent and bonus of 10 per cent

In 1920-1921 the Winter Mills of Hamburg exported large quantities of paper. The net profits of 424,675 marks give a dividend of 10 per cent and bonus of 6 per cent

Poland

The Wloclawek Paper Mill has raised its capital to 5,000,000 marks

ARTIFICIAL SILK—The Vistose Co has opened its new \$1,000,000 plant at Lewiston Pa which it is stated will have an initial production of about 6,000 pounds of artificial silk and will probably work up to a production of 80,000 to 85,000 pounds a week. The company is also getting ready to put into operation its expansion plans for the plants at Roanoke and Marcus Hook, Va. The capacity of the one will be doubled, while a new unit will be added to the other

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CHAPMAN AND DODD, LTD—Capital £3,000, printers, publishers, bookellers, bookbinders, papermakers, stationers, etc. Private company First directors G P Chapman and R H Dodd Registered office 25, Denmark-street, W C 2

GALT, JONES LTD—Capital £10,000 book-sellers, stationers, printers, bookbinders, paper manufacturers, etc. Private company Directors R B Galt and W H Jones Registered office 45, Glasshouse street, W 1

JAMES BROWN AND SONS (GLASGOW) LTD—Capital £15,000 in £1 shares, proprietors, printers and publishers of newspapers journals, magazines, charts, maps, books and other publications Private company First directors J R Brown and A H Ferguson Registered office 52, Darnley street Glasgow

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ANGLO-INDIAN TRADING CO, LTD—Particulars of £100,000 authorised September 21st,

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VICTORIA HOUSE PRINTING CO, LTD—Satisfaction in full on September 20th 1921 of debentures dated November 20th, 1911, and October 14th, 1914, securing £3,000 and £10,000 respectively

FIELD PRESS LTD—Trust deed dated September 9th 1921 (supplemental to trust deed dated July, 31st, 1919), securing £210,000 debenture stock (This stock is issued in exchange for debentures for a similar amount) Property charged—certain freehold and leasehold premises in Cursitor street and Bream's buildings, E C and company's undertaking and property including uncalled capital Trustees, Lloyd's Bank

BRADFORD AND COUNTY CONSTITUTIONAL PRESS CO LTD—Further charge on certain land and premises in Leeds road and Hallings Bradford, dated July 5th 1921, to secure £6,000 Holders A F H Render Heaton Grove, Frizinghall Bradford, and Sir Francis Watson Rawdon Cragg, near Leeds

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Paper Trade Review

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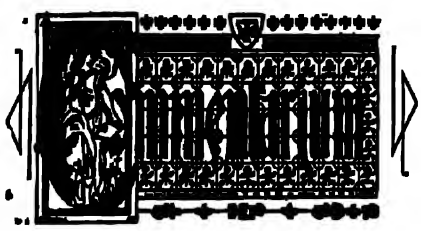
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FORTY-SECOND YEAR.

VOLUME 78
NUMBER 18

LONDON OCTOBER 28, 1921.

PRICE SIXPENCE
EVERY FRIDAY.



CONDITIONS of trade are keeping to the slight improvement which set in about the beginning of the month. There is nothing to boast about however, and in many quarters it is said that there is no improvement at all. Chiefly there appears to be a better demand for wrappings and fancy papers doubtless owing to the approach of the Christmas season. The hardening in price of kraft and wrappings generally seems to have stirred up a bit of interest, but there are still fairly heavy stocks in the hands of the larger users. In the white paper section there is a better call for E.S. writings and printings and it is generally accepted that prices are down to rockbottom for the time being. What we cannot understand is why certain merchants should decide at sundry intervals to issue clearance lines of perfect paper at prices enormously below their regular figures. Possibly there is good reason for the policy and in the end it may justify itself, but we cannot get away from the fact that it gives a wrong impression and retards the return of full confidence in market values. There are many users who are conducting their business entirely on the basis of clearance lines and not prices.

printers and quite a number of leading paper merchants are determined to force the standardisation issue. The opposition comes chiefly from a select official few, whose function is obviously that of obstructing progress by safeguarding mythical interests which must vanish in face of the clear light of actual fact. That printers desire standardised sizes substances and weights of paper and a simpler basis of calculation (as the mille), and that they will turn completely to them within a very short space of time after their adoption, there is no doubt. During the course of transition there will be ample opportunity to clear off all old stocks, and afterwards there will be nothing to prevent special makings when required. The mille basis confers certain benefits upon the merchant quite apart from simplified calculation, which we will not be slow to realise. We hope that the meetings shortly to be convened will mark the final phase in inaugurating an ordered system of paper conditions.

The origin of paper sizes is a subject which has not yet received the attention which it deserves at the hands of the trade historian. Some time perhaps the whole history of English papermaking and the moulding of custom and convention will afford an opportunity for a much needed work of reference. We are prompted to these remarks by the discovery of a passage in an early treatise on printing which throws light on the origin of foolscap sheet and half a size nowadays associated with account book paper and the manufacture of shop orders. The text is told that "they have also paper made to the standard half for the account books and shop orders."

of the press work is thereby saved. This was in the days when all paper was made by hand and all printing was done on the hand press

* * *

A BATCH of advertising matter from the Strathmore Paper Co., U.S.A., is interesting for two reasons. Firstly, because it comes to hand from America under a one cent stamp, and, secondly, because it affords a good object lesson in sales promotion. The production consists of three quarto sheets of high grade letter paper, one figuring the cost of using this paper for commercial headings, one giving the cost in diagram, and the third a blank heading for test or trial. Each bears a message to the prospective user, and the typographic excellence of the whole production reaches a standard which is due to simplicity and the right use of paper and ink

* * *

In a recent issue a very prominent authority referred to the making of hand made paper as a dying industry. Such a statement cannot be allowed to go by unchallenged. It was also repeatedly claimed during the war that the hand made industry could not survive. The actual facts are that during the war the hand made mills were struggling to keep pace with the demand, and despite almost insuperable difficulties caused by lack of material and depleted (and irreplaceable) labour, they succeeded as well as any branch of the trade, and emerged equally as intact. From the termination of hostilities up to the present moment the hand made mills have been behind their order books. Even to day they are actually wiping off arrears, and have not yet reached the period of making entirely for stock. So far as we know, no hand made mill has at any time far exceeded the 100 per cent mark in the advancement of price. For a dying industry the record is not a bad one, and the recapitulation of the facts may help to correct any erroneous conceptions that

may have been formed concerning the condition of an old craft which should be a source of pride to the papermaking industry; large

* * *

MESSRS SPALDING AND HODGE, LTD., have just issued a new sample book of printing papers. The old standard of excellence preserved, although the bulkiness of the volume has diminished as a consequence of war aftermath. There is no other English house which produces such splendidly printed and arranged sample books as the Russell Street firm, though there are several whose books are better commercial propositions. The present edition would gain in value if the last leaf of the sections was perforated to tear out for sampling purposes and the top bound

India's Bamboo Mill

Development Due to English Enterprise

Information is forthcoming as to the progress being made with the mill which Messrs Jhos Nelson and Sons are building in Calcutta for the manufacture of paper from bamboo. An order has just been placed with the Stebbins Engineering and Manufacturing Co., of Watertown, New York for acid proof linings to sulphite digesters.

The quality of the sulphite pulp made from bamboo, says the *Paper Mill*, is of an exceptionally high grade. From it is manufactured a light but extremely strong paper which is of such excellent quality that it is used for the manufacture of Bibles. Messrs Nelson have perfected a process of making pulp from this base that is not to be found in any other country or mill in the world.

According to Mr August H. Richter, president of the Stebbins Co., India is developing much more rapidly than any of the other Oriental countries in the manufacture of paper. English enterprise in its provinces is largely responsible for this.

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Paper Samples by Post.

A Crop of Surcharges

Correspondence has passed between Messrs Spicer Bros., Ltd., the well known paper merchants of London, and the Post Office authorities on the subject of the postage rate for printed paper and orders accompanied by samples of paper required.

Messrs Spicer wrote that they had been paying considerably more than usual in respect of surcharge communications delivered to them. In many cases the surcharges appeared to be because customers had attached to the orders or enclosed with the orders a specimen of the paper they required as under the regulations we see that a packet prepaid at the Printed Paper Rate which contains any enclosure not transmissible at that rate will be surcharged at the Letter or Parcels Rate. The list in the Postal Guide under the heading description of document is a pretty full one, but though it includes orders for goods it does not apparently include patterns in respect of the orders which seems an anomaly. In the paper trade it is such a common occurrence to send a pattern with an order or enquiry that the non inclusion in the list of articles that may be sent is probably an unintentional omission which could be easily rectified in accordance with the spirit of the regulations relating to commercial or business papers of a formal character.

'Unnecessary expenses in commercial transactions add to cost, and the urgent call to day is to keep down costs so we trust that you will see your way to include in the description of documents on page 10 of the Guide, some such phrase as 'patterns accompanying and relating to an order, enquiry or quotation.'

To this the Secretary of the General Post Office replied — I am directed by the Postmaster General to inform you that samples cannot be sent by inland post at any rates other than the letter and parcel rates and no exception can, it is regretted, be made when the sample is a piece of paper, inasmuch as

this would give dealers in paper an advantage over other traders which could not be justified.

Mr J T Steele, on behalf of Spicer Bros then wrote as follows — 'We think the answer we have received has been sent without full consideration of the facts. The suggestion we made as to adding to the description of documents on page 10 of the Postal Guide the words, patterns accompanying and relating to an order enquiry or quotation was not meant to and would not apply solely to dealers in paper as your answer implies. It is true that as the use of paper is universal it would largely affect dealers in paper but the paper trade is not the only trade where it is common practice to receive through the post in an ordinary envelope patterns accompanying orders or enquiries. By your refusal to allow patterns of paper to accompany an order or enquiry, you also must first affect everyone whatever his trade who sends orders or enquiries to a printer or stationer as the sender is primarily the one upon whom the cost of postage falls. At present unfortunately the paper dealer as the recipient is being penalised in the shape of surcharges. May we ask you to reconsider the matter.'

AN INCOME TAX GUIDE. A fourth edition of the tabular view of income tax 1842-1921 (1s 2d post free) has been issued by Messrs Oliver and Boyd Edinburgh. Much illuminating information is given in the form of tables dealing with rates of income tax going back to 1842 income tax at 6s per £ deduction of income tax saved by allowance total super tax on various incomes dividend and annuities free of tax rate relief 1914-20 etc. Under the heading of "Reminders and Advice" the legal position is given in popular language supplemented by a more complete and up to date statement of over thirty heads of repayment claims. The publication will be found extremely helpful in dealing with a subject so full of complexities.

A NEW French company is La Cellulose Française d'Alfa, for the manufacture of pulp from alfa, wood, straw, broom, etc., capital 2 000 000 francs 18 Rue Ozenne, Toulouse.

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The Wood-Pulp Market.

Demand in Europe Shows Slow Improvement

A slight improvement has made itself perceptible during the last few weeks on the paper market in Europe, but it would certainly be best not to indulge in too great expectations that we are now on the eve of a pretty general and lasting move upwards. The consumption of paper is to a very great extent dependent on the general state of business, and as yet the heavy hand of the depression rests on business life, even if people fancy they can observe signs of improvement in certain quarters.

Chemical Wood-Pulp.

Reviewing the conditions of the chemical wood pulp market, *Svensk Papperstidning* says: The English market is still devoid of interest, as the current contracts that were concluded last year cover the requirements of the British paper mills for a long time to come, and until these contracts have been finally delivered one cannot expect any real resumption of sales. On the French, Belgian and Dutch markets, it is true, some buying orders have occurred, but these have gone to Finland and Germany, which, thanks to their low currencies, have been able to accept prices that fall 20-25 percent below the prices of the Swedish cellulose factories.

Owing to the high prices and the scanty supply of cellulose during the last few years thorough investigations have been made in France as to the possibility of the French paper industry turning to account various kinds of grass that are found in the French colonies, but as the costs of transport are very dear, this notion would seem to have been given up for the present. Within the limits of France itself, it is true, there are large areas in the mountain districts which are suitable for the cultivation of spruce, but as it takes 30 or 40 years before the forest is grown up, it will be impossible for a long time to count upon any increase worth mentioning in the home cellulose and wood pulp industry.

The quotations for the day are about Kr 265-280 per ton net f o b for easy bleaching sulphite, kr 220-250 per ton net f o b for strong bleaching sulphite, kr 200-210 per ton net f o b for kraft pulp.

The Only Gleam.

The only gleam of light is to be found on the American market, where the demand remains good, with brisk sales. But the American paper manufacturers buy only what they need for the moment, so that the Swedish cellulose makers have to keep pretty considerable consignment stocks in the U.S.A. so as to be in a position to meet orders that come in for prompt delivery. Thus in a fortnight there have been sold in U.S.A. about 8,000-

10,000 tons of sulphite cellulose and about 12,000-15,000 tons of sulphate cellulose. The prices are firm and, especially as regards sulphate cellulose, they have shown a rising tendency. The quotations for kraft pulp are \$2.40-\$2.50 per 100 lbs ex dock, and for strong sulphite \$2.50-\$2.75 per 100 lbs, while for bleached sulphite there has been obtained as much as \$3.75-\$4 per 100 lbs ex dock.

Mechanical Wood Pulp.

It has been impossible to trace of late any activity worth mentioning on the mechanical wood pulp market, but none the less prices have been going up and sellers are pretty optimistic, inasmuch as they assume that the effects of the powerful restrictions of output will be making themselves felt during the late autumn and winter.

In wet pulp some sales have been concluded to the Continent at prices corresponding to 60-70 kr per ton f o b West Coast port, while from Norrland one or two fairly large parcels have been sold to U.S.A. at \$5-65 kr per ton strict net cash f o b Gulf of Bothnia.

Freights

The situation on the freight market from Norrland is unchanged, on the whole.

The British importers seem, with some few exceptions, to have satisfied their requirements for the year or to have postponed shipments till next year. Obviously the firm tendency of freights on the timber market is also bound to affect the pulp market. From the northernmost part of the Skellefteå district it would seem scarcely possible to obtain shipping under 20s per ton (50 cub ft). For small parcels to the East of England or Scotland the rate is about 25s.

Shipments to North America are proceeding pretty briskly, although during the last few days it is possible to discern a little falling off. With loading and unloading in two ports respectively the quotation in the free market is about \$4.50 per ton (50-55 cub ft of pulp).

From the West of Sweden the quotation from Gothenburg to C.C.S.P. or London is about 20s per ton (50 cub ft), to Rouen 22-25 kr.

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China Clay Trade.

How the Exchange Rates Affect Exports

Considerable anxiety is felt in the china clay areas of Cornwall over the problem of unemployment and Mr S P Bunn has been explaining at St Austell reasons for depression in the china clay trade. The chief cause, he said, was the falling off of the export trade to European centres, where the exchange rates compared with our own were low on account of the huge sums owing by them to other countries.

As an illustration of the effect this had upon our china clay export industry Mr Bunn pointed out that before the war, when one German mark was worth a shilling (now a halfpenny), Germany could purchase a ton of clay, the purchase price of which here was (say) £1, for 20 marks. Now owing to her low exchange, it cost her 465 marks equivalent when calculated on the basis of pounds sterling, to £23. This allowed nothing for the enhanced price of clay now compared with pre war.

The franc 25 of which before the war went to the £1, was down in value by over half, requiring 52 francs, or over £2, to purchase a ton of clay value £1 at the pre war price again without calculating the enhanced price since then, which was, roughly, double pre war. The same thing applied to Belgium, Italy, and other countries whose exchange rates were affected to a greater or lesser degree.

This meant that these foreign countries were unable to purchase china clay in such large quantities until the rates of exchange improved, or until they were stabilised. As showing what an important bearing this question of the capacity of foreign countries to buy our china clays had upon local industry, Mr Bunn gave the following figures of the exports of china clay overseas in 1912 as compared with 1919, the latest available figures—

	Tons 1912	Tons 1919
Russia	45,000	493
Netherlands	67,000	15,000
Belgium	58,000	11,725
France	45,000	31,585
Germany	94,000	Nil
Italy	21,246	6,712
USA	252,382	180,896
Other foreign countries	40,418	21,453
Colonial and British Dominions	35,059	18,446
Totals	661,300	286,578

This was a difference in tonnage of 374,722, and in pounds sterling, put at a conservative figure, three quarters of a million. Foreign countries were buying some clays more cheaply elsewhere, and also making shift with their domestic clays.

He believed that when things became more

normal in the years to come the china clay trade would be more prosperous than it had ever been, but the prospect of its being able to absorb so much unskilled labour as it had in the past was not likely on account of the more extended use of machinery.

Blotting Paper.


In an appreciation of German made blottings appearing in No 82 of the *Papier Zeitung* one reads that "it is not so long since in Germany, if one would have something really good, one demanded English blotting paper. Only with difficulty could the home mills specialising in this sort of paper get a footing in their own land. For long they had to wrap their goods in imitation of the English makes as the public had no faith in German blotting paper. The mill traveller must have smiled when he saw how eagerly the good German paper was bought as English and retailed by the dealer as 'real English'."

The writer thinks that the hankering after foreign goods had much to do with the difficulty, but doubtless the good service rendered by the English goods was the determining factor and unfortunately this country has had to suffer from the same methods as above indicated.—M A

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Scientific Development of Industry.

What Battersea Polytechnic is Doing for Papermaking

An important gathering of students and others interested in papermaking was witnessed at the Battersea Polytechnic on Monday evening, where in connection with the papermaking classes, a film showing 'The Manufacture of News Paper in Canada—From Standing Timber to Finished Sheet,' was displayed under the auspices of the Technical Section of the Papermakers' Association. The film was kindly lent by Messrs Charles Walmsley and Co. Ltd., of Bury.

The large hall of the institution was filled with an interested audience and the gathering marked an important stage in the development of technical education associated with the paper industry. Such instruction is only in its infancy, but, thanks to the efforts of the Technical Section of the Papermakers' Association there are signs that it will be developed on proper lines and on an adequate scale. The influence of the Section has already been felt at Battersea and the courses of papermaking instruction have been widened in consonance with the idea which has now taken firm root, that papermaking does not rely for its successful development either upon the chemist or upon the engineer but upon the activities of both assisted by explorations into fundamental research. Something has yet to be done to carry the complete ideal into effect but much has been achieved at Battersea to develop the practical side of the work. Thus for the first time there has been instituted by the Polytechnic this winter an additional section to the papermaking courses viz that of engineering, which is under the direction of Major R. Marx.

Two other branches of instruction are already in operation. The first year course, for instance covers 'papermaking and paper testing,' which is in charge of Mr D. R. Davey, I.C.S. who was lately chief assistant to Messrs Cross and Bevan. The second year course, which includes the engineering lec-

tures, also embraces a commercial paper course under Mr W. A. Cuss. The instructors have every facility at their disposal, for the Polytechnic is equipped with complete laboratory and engineering departments. The institution, under the principal Dr Robert H. Pickard, D.Sc., F.R.S., carries out chemical research work of a varied character, particularly applied chemical research, having the accommodation the equipment and the personnel suitable for the purpose. What they do require, however is the backing of the trade and papermaking is one of the branches of endeavour which the authorities are particularly anxious to develop.

Thus at Battersea there is every opportunity and facility for developing technical instruction in papermaking on the lines which are approved by those who are best able to judge, and it is admitted on all hands that modern industry calls for the combination of the chemist and the engineer more than ever it did.

Fundamental Research

In addition, of course to instructing those who are already engaged in or are entering the industry either on the commercial or the practical side there is a great need and an illimitable scope for fundamental research as was so strongly emphasised at Edinburgh. Fundamental research means the application of science to industry and never was development along these lines more necessary than it is to-day. This fact is well recognised by various industries such as those of dyeing, leather, cotton and others each of which has a well paid director of research and an adequate staff. All this, of course points to the need for those who are entering the paper industry to take up their work seriously and to leave no stone unturned in developing it to the utmost.

The interest which is being aroused in the art of manufacturing paper through the technical instruction afforded at Battersea and elsewhere is indicated by the large gathering which assembled to witness the exhibition of Messrs Walmsley's film which by the way, so impressed the papermakers who attended the Technical Conference at Edinburgh recently. The pictures illustrated the operations of Messrs Price Brothers and Co., from the cutting of the timber to the

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dispatching of the reeled news to the paper mills. Each stage in the process of manufacture was very clearly demonstrated. Particularly interesting were the various methods of handling the logs on their way from the snowy regions to the mills at Kenogami and Jonquière. Mechanical devices of a very ingenious character are employed in the neighbourhood of the mill for turning the wood into pulp. The last of the four film reels dealt with the conversion of pulp into paper and the shipment of the finished reels, each process being followed with keen interest.

In the course of an interval Dr. Pickard made a few observations with regard to the instruction in papermaking carried on at the Polytechnic. They had a very splendid equipment, he observed, on the engineering side and they made great attempts to give systematic instruction in chemistry. He took it that the paper industry depended largely on the combined efforts of the engineer and chemist and at Battersea they were particularly anxious to cater for the needs of those engaged in the industry.

Chairman of the Technical Section

Mr. Arthur Baker, chairman of the Technical Section of the Papermakers' Association, who put in an appearance at no little inconvenience to himself, addressed the gathering as follows:—

I am present to night in my capacity as chairman of the Technical Section of the Papermakers' Association in order to express our appreciation of the educational work carried on here at Battersea, more particularly with reference to the paper industry. It is the primary aim of the Section to forward the application of the sciences in the art of paper manufacture by the promotion of the scientific and technical training of those who enter the industry, and by the encouragement of original investigations of a fundamental character.

The film shown this evening has demonstrated the magnitude of the operations involved in the manufacture of "news" paper.

It is no child's play. The paper machine is a very large manufacturing unit, a single large machine being capable of producing 10,000 to 12,000 tons of paper per annum. You will therefore readily understand that if we are to maintain our industry in a flourishing condition, it is necessary our operations should be directed and carried on by those who are intelligently informed.

Paper manufacture, unlike some other industries, is not concentrated in particular areas, but rather scattered about the country. Notwithstanding there are three fairly well defined districts—Kent and the Thames Valley, Bury and Darwen, Edinburgh—and it is our view that there should be at least three centres of education where the student can obtain instruction of a high standard in those subjects necessary for a complete understanding of our art. In our opinion London, Manchester and Edinburgh are most suitable for the purpose. Here at Battersea you have given instruction in paper manufacture and kindred subjects for some years. We hope such instruction will be continued and extended and that not only will you cater for the student who can only find time to attend definite courses of lectures, but also for those few students from an industry who can take a three years course of training.

We also venture to hope that Dr. Pickard will be able to devote some time to the fundamental work required for the development of our industry, because we are not unmindful of the fact that fundamental discovery is the parent of scientific technique and that an industry which is content to wait upon the new knowledge acquired by others will always lag behind.

Discovery will be as important in the future as in the past. It is almost impossible to suggest any kind of physical or chemical investigation which may not sooner or later have a direct or indirect application in industrial development. We recognise to an increasing extent that apart from other considerations the future of our industry depends

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upon our being able to command a sufficient supply of knowledge directed towards the improvement of our products and methods of production, and upon the investigation of fundamental theory underlying those branches of sciences which find application in our manufacture.

We are very pleased you have supplemented the usual lectures on paper manufacture by a special course of engineering lectures, because the engineer plays a very important part in the paper mill, in fact, certain branches of paper manufacture have become almost entirely engineering operations, although even in such factories there is great scope for co-operation between the engineer and the chemist.

I would like to say one word to the students present. No matter what is done in the matter of education here and elsewhere it is very largely a personal matter. As Mr J R Clynes, M P has recently stated, 'personal effort initiative and exertion are the prices which must be paid for knowledge, and study alone is the avenue through which improved minds can be passed'. I would appeal to the students to encourage this institution and others conducted on similar lines by attending the classes and thus show that they appreciate the efforts put forward in the direction of promoting the scientific development of industry.

Before dispersing, much interest was also taken by the large gathering in the various scientific apparatus which Mr Davey and Mr Cuss explained to visitors during the evening, including microscopic slides, paper testing machines and so on.

PAPER which is said to be two or three hundred years old and of superior quality has been used by Arabs in Tripoli to wrap up parcels of silk. It has been looted from the Turkish archives and came into the possession of Mr McBey, who, says the *Evening News*, spends his spare time in searching for rare paper.

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SWEDISH TIMBER TRADE -- The latest reports seem to indicate a decided improvement in the timber sales of Sweden during the last few weeks. The total sales for the whole season up to the end of July amounted to only about 100,000 standards, but by the middle of August the figure had reached 150,000. By the end of July last year the sales were 750,000 standards.

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Major Renold Marx.

Major Renold Marx, M C, B Sc, Dipl Ing, who is in charge of the engineering section of the papermaking course at Battersea Polytechnic, and who arranged for the exhibition of the Walsley film on Monday evening,



Photo Elliot & Fry

MAJOR RENOLD MARX, M C B Sc

is a son of Mr R J Marx who is well known in the paper industry. Educated at University College, London and at Charlottenburg

he has spent a considerable time working in paper mills and with papermakers engineers to acquire first hand knowledge of mill conditions, an experience which has proved to be very valuable. Before the war he was with Messrs R J Marx, and has designed bought, sold and erected papermaking machinery in Great Britain, Europe Canada and the U S A. Throughout the war he served with the 29th Division, was wounded four times and was awarded the Military Cross and Croix de Guerre.

Major Marx is particularly interested in the reasonable application of scientific methods to papermaking and is devoting much time to this work. He is convinced that papermakers in this country are fast relinquishing rule of thumb methods and that the real practical value of research from the engineering as well as from the chemical point of view is becoming more fully realised.

At the present time Major Marx is now introducing the Elmendorf Tearing Tester into Great Britain. He is having it made in London and great interest is being taken in it by paper users as well as papermakers.

A member of the Committee of the Technical Section he has taken an active part in its proceedings and his assistance has been much valued. Until recently he was in partnership with Captain I Mallett M Sc A M I C E A M I I E who has just been appointed to a professorship at the Imperial College of Science. Major Marx is therefore carrying on the firm in his own name but still has the benefit of Captain Mallett's valuable advice in connection with certain technical problems.

ANGLO CANADIAN TRADE—Mr R B Stewart hon secretary of the newly formed Canadian Chamber of Commerce in London 55 Holborn viaduct E C 1 writes drawing attention to the objects of the Chamber. These are briefly the encouragement and promotion of Anglo Canadian trade and commerce the development of Canadian industries by British capital and generally the furtherance of Canada's interests in the United Kingdom. All Canadians in this country are asked to get in touch with Mr Stewart as soon as possible.

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Photographic Base Paper.

Machine at New Glory Mill Started Up

The completion of the new photographic base paper mill built by Wiggins Teape and Co (1919), Ltd, at Wooburn Green, was celebrated on October 5th, when Mr Thomas Illingworth, J P, of Messrs Thomas Illingworth and Co, Ltd, Park Royal Willesden, N W, formally set the machine in motion in the presence of the board of directors and workpeople.

Mr Peter Wood Holden, chairman of the company, in thanking Mr Illingworth for his presence amongst them said that this seemed a propitious moment at which to mark the end of the first stage of their progress as photographic base papermakers and to celebrate their entry into a new era which he had every confidence would be a long and successful one. He went on to state that at the old mill, with the most inadequate plant and machinery, they had been able to make largely owing to Mr Illingworth's help and advice, 4,000 tons of base paper, which, although not perfect, had filled its purpose. At this new mill fully equipped for the manufacture of the highest grades of photographic base they all meant to succeed although they realised that they had no walk over, and relied for success only on the quality of their products and the service they can render. Mr Holden then invited Mr Illingworth to set the machine in motion and thus to join with them in the honour of inaugurating a new industry.

Mr Illingworth in reply, referred to his first introduction to the firm, when, shortly after the outbreak of war, the Government requested him to undertake the manufacture of material for aerial photography at that time in its infancy. This he did, and when an emulsion suitable for the purpose had been produced he found himself up against the problem of how to supply paper for the prints, the raw base having all been hitherto manufactured in Germany. When he approached some of the British papermakers he was generally met with 'ifs' and 'buts', but when he put the case before Mr Peter Holden,

chairman of Wiggins, Teape and Co, that gentleman said, "If the country needs the paper, then the country shall have it," and they at once set about adapting their old Glory Mill to the purpose, and, in spite of the great drawbacks of inadequate and unsuitable plant and buildings and the loss of their experienced men who had to join up, were able to produce a base paper suitable to his requirements. The extent to which they helped during this critical time may be gauged, said Mr Illingworth, by the fact that his firm alone supplied to the Air Force 12½ million sheets of sensitised paper sufficient if put end to end, to cover a distance of 2,300 miles. Mr Illingworth paid a tribute to the enterprise and courage of the company in undertaking the stupendous task of erecting and equipping such a magnificent mill specially designed for the manufacture of the highest grades of photographic base, and complimented the directors on the successful completion of their task. We all unhappily know what unemployment means nowadays, added Mr Illingworth, but here we have a new industry for Britain which should give employment to a large number of British people who will work under almost ideal conditions in one of the best designed and most modern mills equipped with latest machinery and plant and what the German workman (in do the British workman can do. I know you will succeed' (cheers).

Amidst ringing cheers Mr Illingworth then set the machine in motion.

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Wood Pulp Arbitration.

Interpretation of the Much-Discussed Force Majeure Clause.

An important arbitration concerning a wood pulp contract was recently held in London, and we are able to present here with the award. The parties in the case were the Korsnas Sagverks Aktiebolag, claimants and Robert Craig and Sons, Ltd, respondents.

The facts of the case were these. On April 10th, 1920, Messrs R Craig and Sons purchased through Messrs Robert Erikson and Co, Ltd, agents for Messrs Korsnas Sagverks Aktiebolag, 1,500 tons of Korsnas first quality strong sulphite pulp free on board at Karskar, Sweden, shipment to be 'fairly spread during the navigation season of the present year 1921'. The contract was made out on the usual bought and sold notes adopted by the British and Scandinavian Wood Pulp and Paper Associations. Owing to the coal strike, which began on April 1st and terminated on July 4th, 1921, both the Moffat Mills and the Caldercruix Mills were shut down entirely for want of fuel. Messrs Craig have no means of storing any large quantity of fuel, but depend upon their coals coming in regularly day by day. For a little time before the strike actually came into force, the coal owners stopped sending coals as they were retaining such reserve as they possessed against their anticipated requirements for pumping and such purposes after the pits ceased working. The result was that on April and after the mills were shut down, respondents had only in stock about half a week's supply of fuel, and they could obtain no more. They made special efforts to obtain coals, and early in April some supplies were loaded in wagons and ready to come, but the miners leaders took the tickets off the wagons and would not allow the wagons to be sent. They were backed up in this by the National Union of Railwaymen, who declined to transport coal for manufacturing purposes such as paper making. During April the company did manage to get sufficient coal to run both the Moffat Mills and the Caldercruix Mills for one week each. After that, however, it was impossible to obtain any more. In April they were being pressed by H M Stationery Office to deliver paper on account of contracts which they had from them, but which they could not make as they had no fuel. Messrs Craig asked H M S O to assist them to get fuel to make their paper, and they wrote back saying that they were not able to give any help whatever. Consequently the manufacturers were unable to run their mills any more until after the coal strike was finished. They resumed full work at both mills on July 11th.

Seeing that the contract with Korsnas was for shipment fairly spread during the navigation season 1921, and as it is recognised that commercially the Baltic navigation season is from May to November, a period of seven months—as although the lower Baltic ports may be open earlier and remain open later yet the pulp mills will not guarantee shipment in April or in December—and as the respondents were hindered and prevented from making paper for a full period of three months, they claimed under the *Force Majeure* Clause that they were entitled to have cancelled three sevenths of the total quantity of 1,500 tons contracted for or 643 tons. Messrs Korsnas refused the claim on the ground that the paper firm were only entitled to one twelfth of the total quantity for each month they were shut, namely, three twelfths, or 375 tons altogether.

The points for decision, therefore, in the arbitration were which was the correct interpretation of the *Force Majeure* Clause and what quantity should be cancelled if neither side was held to be correct. Messrs Korsnas appointed as their arbitrators Mr Samuel Garrett, of St Michael's Rectory, Cornhill, solicitor, while Messrs R Craig and Sons appointed as their arbitrator, Mr Ernest Frederick Lever of 3, Essex court Temple barrister at law. These arbitrators appointed as Umpire in the said Reference, Mr Frank Douglas MacKinnon K C. The counsel for Messrs Korsnas was Mr James Dickinson, barrister at law instructed by Messrs Biddle Thorne, Welsford and Gait and counsel for Messrs Craig was Mr Rudolf Moritz barrister at law, instructed by Messrs J N Mason and Co.

The Award

The award is as follows—

Whereas by a contract in writing dated April 10th, 1920, between the above named claimants, pulp manufacturers, of Gefle, Sweden, and the above named respondents, paper manufacturers of Airdrie, the claimants agreed to sell and the respondents agreed to purchase 1,500 tons of Korsnas first quality strong sulphite pulp, free on board, Karskar, Sweden, shipment fairly spread during the navigation season next year (that is this year) upon the conditions contained in the said contract including condition No 5, of which a copy is contained in the Schedule hereto. And whereas the respondents contended that in the events which have happened during the navigation season of 1921 they were

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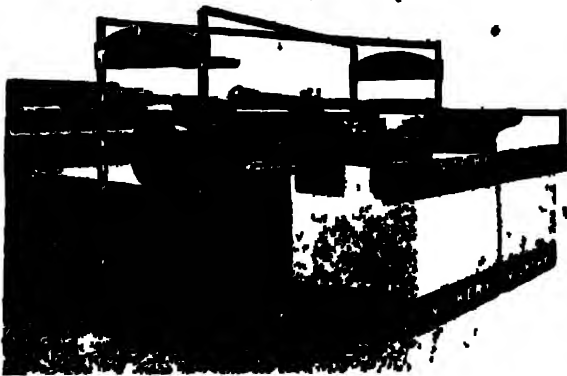
liable to accept and take only 857 tons of pulp out of the 1,500 tons contracted for by the said contract and the claimants disputed this contention and contended that the respondents were liable to accept and take the full contract quantity of 1,500 tons. And whereas under an arbitration clause contained in the said contract the said parties agreed to refer the said dispute to the arbitration of two arbitrators one to be appointed by each party and they to appoint their umpire before proceeding with the reference. And whereas the claimants appointed as an arbitrator in such reference the undersigned Samuel Garrett, of St. Michael's Rectory, Cornhill, solicitor, and the respondents appointed as an arbitrator the undersigned Ernest I. Frederick Lever, of 3, Essex Court, Temple, Barrister at Law, and the said arbitrators appointed as umpire in the said reference Frank Douglas MacKinnon, Esquire, one of His Majesty's counsel.

And whereas by consent of the parties the said umpire and arbitrators sat together upon the hearing of the said reference. And whereas upon the hearing of the said reference the parties agreed that the arbitrators or umpire should make an interim award in the form of a declaration that the respondents were or were not in default in refusing to take delivery of more than the quantity of pulp they have agreed to take delivery of, namely, 857 tons, and if they were in default to what extent they were in default and that, if necessary after the publication of such interim award the parties should come before the arbitrators or umpire again to make a final award. Now, we, the said arbitrators having taken upon ourselves the burden of the said reference and having heard and considered the evidence adduced by the said parties and the arguments of their respective counsel do hereby award and determine that the respondents are in default in refusing to take more than 857 tons of pulp under the said contract and that they are bound to take, in the events which have happened, 937 tons of such pulp and no more and are in default to the extent

of 80 tons, being the difference between the 937 tons which they ought to have taken and 857 tons which they were willing to take. And we further award and determine that each party shall pay their own costs of the said reference and that the respondents shall pay the costs of this award which we assess at £88 2s, and if the claimants shall in the first instance pay the last mentioned sum then we direct that the respondents shall forthwith repay to the claimants the amount so paid. In witness whereof we have hereunto set our hands this 11th day of October 1921.

THE SCHEDULE ABOVE REFERRED TO—
Force Majeure. The buyers or sellers may suspend deliveries under this contract pending any contingency beyond their control which prevents or hinders the manufacture of paper or the manufacture or delivery of pulp, viz. the Act of God, war, strikes, lock outs, drought, flood, accidents, total or partial fire, obstruction of navigation by ice at port of shipment and loss, and detention at sea or the like. The party affected shall give prompt notice to the other part, of the cause and commencement of such suspension and also of when it ceases to have effect and deliveries shall be resumed *pro rata* according to the production of the sellers or the consumption of the buyers. When such suspension shall have continued for one calendar month the delivery for that period shall be cancelled unless otherwise agreed. For each succeeding period of one month the same course shall be taken. In the case of single cargoes or deliveries at longer intervals than one month one twelfth of a year's deliveries shall be cancelled for each month's suspension. In the event of the works of either buyer or seller being totally destroyed by fire and not rebuilt this contract to be null and void.

A BRITISH patent granted to Mr. Marc Landraud relates to means for regulating the admission of steam to the drying cylinders and ensuring the exactly desired degree of drying to the paper.



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Paper Trade Unemployment.

Control Incidents Recalled

In attempting to show how not to remedy unemployment, Mr Ernest J P Benn, in the course of an article in the *Financial Times*, makes two references which will interest paper people

When during the war, he writes, the Paper Controller was put into power and installed in a little office with a few clerks to take in hand the business of paper, he counted up the mills, took the Board of Trade returns, collected a few figures as to shipping, and fondly imagined that he had got a grasp of the paper trade. He was rudely brought to his senses by Lord Riddell, who by a simple process of calculation called his attention to the fact that there were 60,000,000 transactions every day of the week in Great Britain alone, involving the sale and purchase of paper. The whole of the legions of the bureaucrats combined into one great paper office could not possibly control any such volume of business. Something was to be said for the Paper Controller at that time, because, while the war was on, his duty was to restrict the trade in paper and make unemployment in order to find men for the Army. If the various experts now concerned with the curing of unemployment had been employed in 1915 in the business of recruiting there might have been some sense in the arrangement.

In the second reference the printer comes in for comment as follows—The printer complains of unemployment, and imagines himself to be under a grievance. He declines to look back, even a few years, to notice the results of his own actions. Seven years ago he was providing us with 7d novels by the million, to day he is offering an inferior article for about 2s. All the Acts of Parliament in heaven and in earth cannot make the 7d novel reading public buy the 2s article. Sooner or later the novel reader and the printer will strike a bargain, by slow and painful stages they will compromise at a 1s and there will be plenty of reading and plenty of enjoyment. Meantime the money which was

previously spent in this way is coming out of the pockets of the readers in the shape of rates and taxes being heavily watered by the bureaucrats, and providing some of the printers with inadequate unemployment doles

U.S. Printing Paper Exports.

During August the exports of American printings were as under to the countries mentioned —

News Print

	Pounds	Dols
Canada	53,676	4,087
Cuba	1,922,952	105,309
Brazil	19,340	1,750
Other South America	67,156	4,229
China	30,839	1,875
Philippine Islands	188,953	11,511
Other countries	238,229	16,023

Total August, 1921	2,521,145	144,744
" " 1920	8,809,248	688,663
" Jan Aug, 1921	24,300,260	1,712,872
" " 1920	63,088,944	3,966,907

ALL OTHER

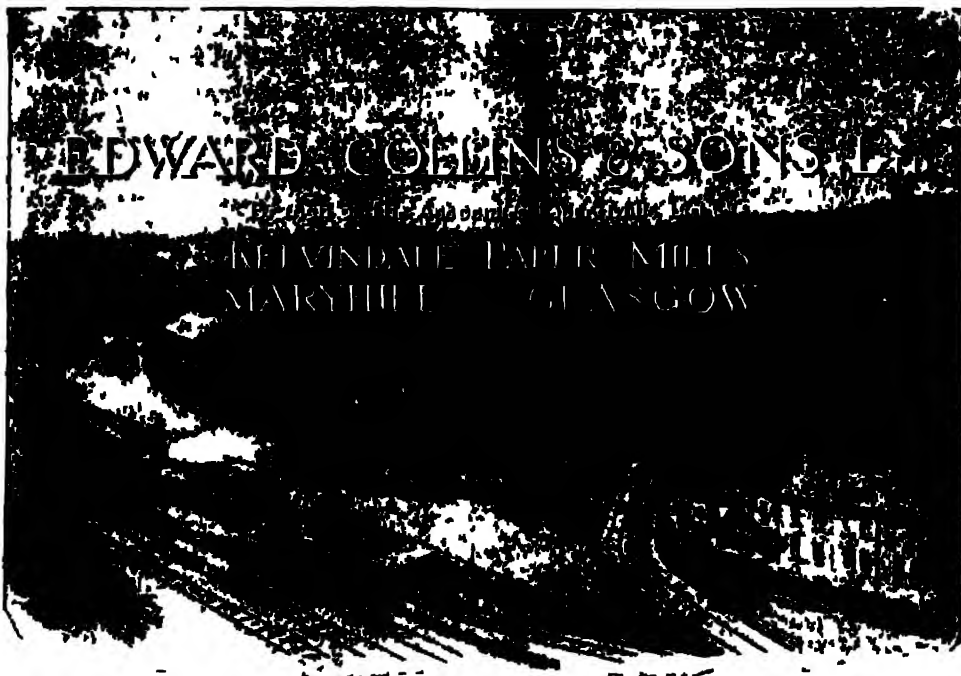
	Pounds	Dols
United Kingdom	40,493	5,995
Canada	297,952	28,567
Mexico	602,695	64,261
Cuba	218,617	13,128
Argentina	4,641	654
Brazil	37,154	6,578
Chile	8,170	1,102
Columbia	41,253	4,479
Peru	29,353	4,619
Venezuela	24,514	2,477
China	48,957	6,278
British India	119,318	11,361
Dutch East India	600	10
Japan	155,677	19,581
Australia	106,301	8,417
Philippine Islands	57,077	5,314
Other countries	204,298	22,917

Total, August, 1921	1,991,070	205,838
" " 1920	5,770,615	911,485
" Jan Aug, 1921	34,493,468	5,239,214
" " 1920	60,646,730	1,914,678

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Waste in Box-Board Mills.

Waste means loss, waste means the loss of something which could be saved.

In box board mills the problem of waste prevention is a serious one needing continuous and careful attention from the fact that there are so many ways in which losses may occur.

The waste of time and material by careless and time killing employees is one which may be corrected by efficient superintendents and foremen.

The waste of fuel in the power plant through imperfect combustion low temperature feed water, or dirty boilers may be corrected by a diligent engineer.

The waste in radiation may be corrected by the proper covering of steam pipes and boilers.

The waste of power in the beater room can be lessened if the beater man can be educated to handle the rolls in the right way.

Waste heat from exhaust steam can be used for drying paper and heating the buildings.

The waste from trash received in paper stock (mixed paper) cannot be avoided.

The most serious source of loss in board mills and usually the one to which the least attention is paid is the waste water from the machines. I have seen sewers from paper mills lined their full length with valuable pulp and in places where they would overflow, the ground would be covered inches thick with it. The main idea seemed to be to get rid of it the quickest and easiest way, dump the vats, wash them out and let every thing go to the river. I will say though that more attention has been paid to this loss in the last few years, ways of using this waste water have been devised, thereby saving what stock was in it.

Save-Alls

Save alls are being put into use. It is every ones patriotic duty to save pulp wherever possible in the mills, thereby conserving the fast diminishing supply of pulp wood. No matter how much money a mill is making, there is no excuse for wasting pulp. Save it all and put it back into paper.

The saving of waste water from the machines in any mill is not a very difficult or expensive job. The most efficient method that I have found and which I put into successful operation in a large box board mill was to drain or collect all waste water from the machines, stock pumps, screens etc., in a central point (shallow well or sump) and deliver it by a centrifugal pump to a tank of large capacity, the beaters getting their water from this

tank. There would be times when the beaters would not use all the water put into this tank, naturally causing it to overflow, which would mean some waste, but this overflow was taken care of by another tank from which a pipe led to the save all, thereby saving it all. There were times when the save all had nothing to do, but it was there and ready like a good catcher allowing no "passed balls."

By the above described arrangement the reclaimed pulp in the waste water is passed back to the beaters where it is mixed with fresh stock. The same disposition is made of stock reclaimed by the save all.

Reclaimed water in the tank from which the heater room draws its supply can be easily kept hot by the proper arrangement of coils and the use of exhaust steam.

One of the objections to the use of a tank for waste water is that a large amount of stock settles there and must be emptied and washed out periodically. This, I believe, could be avoided by using a steel tank with a taper or hopper bottom at least 60 degs taper, with the outlet to the beater supply pipe at the lowest point. There could then be no settling everything going to the beaters. The saving of pulp by this method is not the only saving there is a saving of fresh water and the power it takes to pump it. The saving of fresh water is a vital thing in some mills where the supply is limited.

The wastes in box board mills though numerous are not difficult to correct if manager and superintendent notice them and insist on their correction. 'A penny saved is a penny earned', the same thing applies to dollars.

Every box board mill has its own separate waste problem, all are different. Some are easily corrected, while some are not so easy. None however, are so difficult but with some ingenuity it can be solved. In putting up a new plant, this saving of waste water should be included in the plans, when it could be done with slight expense.

One rarely realises what is being lost through waste water until the evidence is before you. I can well remember when I first saw the save all put to work, and the amount of good stock which came from it. Then I reflected at the years we had been letting all this water go to the river in blessed ignorance of money that was going with it.—Mr Richard Clayton in *Paper Industry*.

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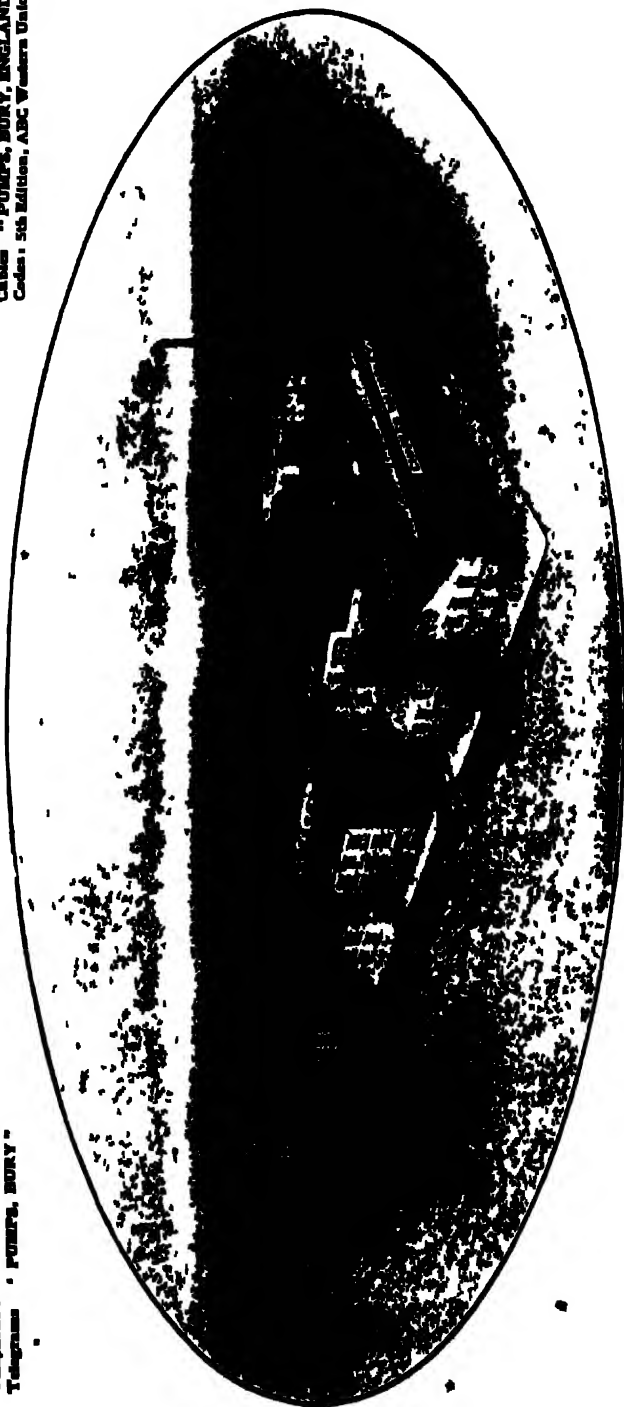
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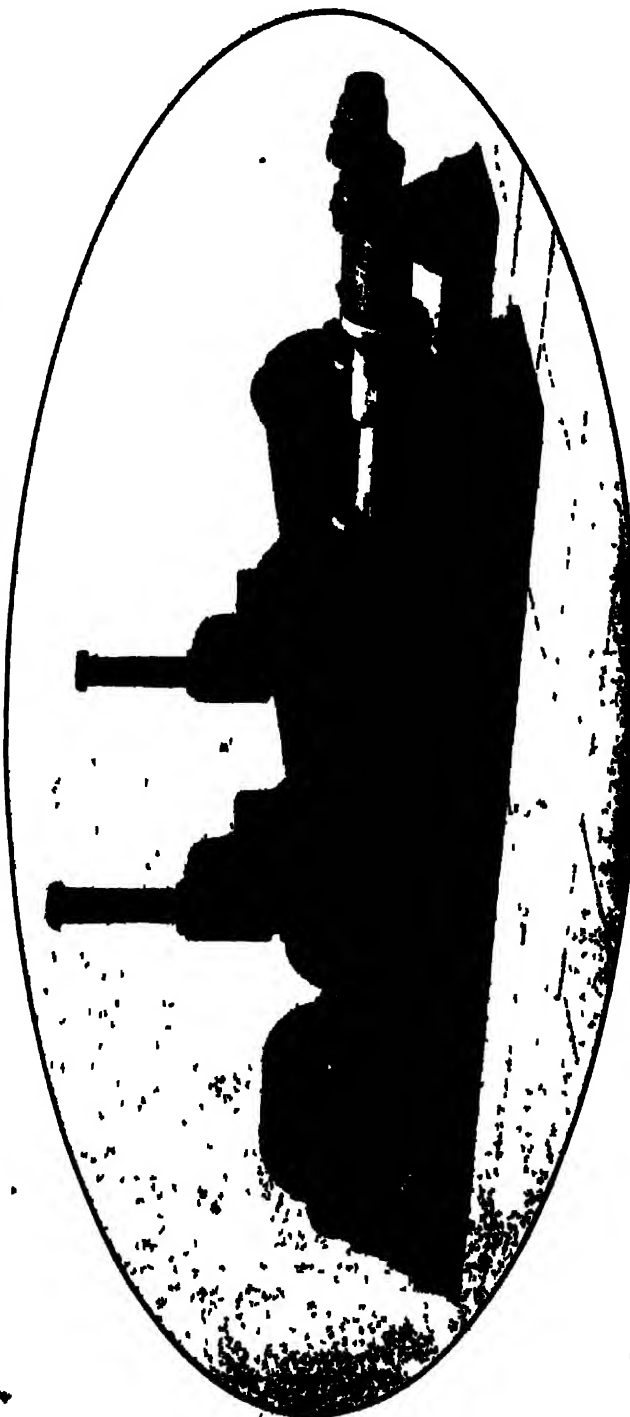
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Papermaking Reeds.

Results Shown by Actual Manufacture

Some interesting information concerning the utilisation of reeds as a papermaking material is given by Mr A Klein, who has had much experience of making pulp from this source, and who contributes an article on the subject to the *Paper Trade Journal* (N Y).

Mr Klein owned a mill on the Roumanian Danube in Braila, not far from the Black Sea, where they made many thousand tons of bleached pulp. This pulp was made into high grades of paper. It was an excellent substitute for esparto grass pulp, and to a certain extent was used to replace cotton rags.

We gathered the many thousands of tons we needed in the winter when the swampy delta of the river was frozen writes Mr Klein. The reed was cut by fishermen with big knives. This work proved economical because the fishermen were without work in the winter, and besides this the frost bitten reed is dry and not so heavy as the fresh green plant. Costs of transport are lower this way. The reed was put up in bundles which were gathered and left on higher places, where the rising water of the river in the spring could not touch them. When navigation opened the bundles were taken to the mill, and made into pulp. Before the Braila mills were started reed was considered as unsuited for papermaking, because the plant has a too high content of ash.

The cellulose contents and the general composition of the reed are quite variable. We ascertained, for instance, at the time of the cutting, that in some places the knives became very dull in a comparatively short time. We found that the reed cut in this place was always harder than reed cut from other places, and in cooking the stems, etc., we found that it was necessary even to vary the cooking to get uniform pulp. I do not know the reason for this, but I am ready to accept as the explanation that the soil on which the reed was growing had an influence on the composition of the plant. An opinion was published many years ago by Ladenburg and Lange, according to which the silica plays no important role in the growth of the grasses.

In this connection I would like to ask this question. We know that silica is contained in every kind of grass, we know further that silica cannot be dissolved in neutral or nearly neutral solutions of sulphites at higher tem-

peratures. On the other hand, it has been proved that a good pulp of straw and also different grasses can be made by cooking them in neutral sulphite solutions at higher temperatures. Now could it not be possible that silica enters the organic compound and is a part of this compound? If this is the case we can explain the two seemingly contradictory facts.

However we succeeded in making a very good fibre out of reed by cooking the plant with sulphites. Reed and grasses in general cannot be handled as wood. There are several minor points and some of bigger importance where the treatment of wood and grasses differ. The paper made from the reed pulp is very much like esparto paper. Reed pulp can be used without mixing it with other pulps. It can be used also together with sulphite or sulphate or soda pulp. In all cases the papers made from reed pulp are bulky and soft. The strength of the wood fibre is greater than the reed fibres, but the reed yields more elastic fibres, and very nice printing and high grade soft writing papers can be manufactured from reed pulp.

The average length of reed grass pulp was found to be 1.24 millimetre and the diameter 0.016 millimetre. These figures come very near to the esparto grass fibres, and from them it could be assumed that papers made from reed grass pulp will turn out very similar in quality to the esparto papers. And certainly they did. A paper made from 40 per cent bleached soda pulp and 60 per cent bleached reed grass pulp weighed 112 grammes per square metre and was 0.185 millimetre thick. Another paper made from 80 per cent of bleached reed grass pulp and 20 per cent of bleached sulphite, with a weight of 97.5 grammes per square metre, had a thickness of 0.104 millimetre. These papers came up in bulk to the average good esparto papers.

The locations of mills to treat reeds would have to be given careful consideration, and the technical details would also have to be well judged, as the handling of the raw reed is very expensive indeed. A bundle of dry reed is 2½-3 metres in length and 1 metre in circumference, and weighs 7 kilograms. The volume of this bundle is about 1 cubic metre. From this about 3 kilograms of dry bleached pulp can be manufactured. Now 1 cubic metre of wood—soft pulp wood—weighs 350 kilograms and from it 120-140 kilograms of dry sulphite can be made. In this manner it can be calculated that the amount of reed by volume required to make a given quantity of pulp is 40 times as large as the amount of wood required to make an equivalent quantity of sulphite pulp.

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Trade Notes.

EDITORIAL NOTICE—The Editor will be pleased to receive Items of News, Personal and General, Company Reports or Newspaper Cuttings of Interest to the Paper Trade

MANSELL, HUNT, CAIRY AND CO—Directors announce half yearly dividend at rate of 8 per cent, same as a year ago

UNITED ALKALI—Directors have decided further to defer consideration of payment of any interim on cumulative preference shares

BABCOCK AND WILCOX—Dividend of 7 per cent, free of tax, for the half year ended June 30th

THE IVY MILLBOARD CO, LTD has been registered as a private company, with a capital of £2,000 in £1 shares. The directors include Messrs H J Dixon, sen, and H J Dixon jun, of Ivy Mill, Iovil

STANDARDISATION OF PAPER—Conferences are to be held shortly between the Federation of Master Printers and the Wholesale Stationers and Papermakers Associations to deal with the question of the standardisation of paper

To THE forms inviting tenders for paper, the Stationery Office affix the following notice: 'Owing to difficulties and delays in transit of goods during the war and for some time afterwards a certain amount of latitude in regard to late deliveries of supplies under contract has hitherto been allowed. Now that transport conditions are again normal, the attention of tenderers is called to the condition of contract relating to time fines for late deliveries of supplies, the terms of which will in future be rigidly enforced'

STATIONERY PRICES—A correspondent of the *Western Mail*, Cardiff, complains of the prices asked for stationery in his city. He writes: 'I wanted 500 small articles in this line last week. The best any Cardiff firm could, or would, do was to ask me £2 19s 6d. A firm in London offered me precisely the same goods for £1 16s 3d. So I have given them the order, and saved myself £1 3s 3d.' From the point of view of education alone, the writer describes this difference in price as an urgent matter

MESSRS OLIVE AND PARTINGTON, LTD, are issuing two very beautiful sets of printed samples, encased in folders of embossed glazed cartridge cover paper. The white printing papers and the coated art papers show that the very high pre-war standard of this firm's papers has not only been maintained, but improved. The sample sheets are adorned with illustrations which show at once the beautiful results that can be obtained by high-class craftsmanship combined with a perfect printing paper, the printing having been carried out by Messrs George Pulpan and Sons

A LARGE gathering is expected at the meeting of the London Technical Section of the Papermakers Association this (Friday) evening at the Connaught Rooms

A SERIES of lectures on "Papermaking," illustrated with lantern slides, is being given by Mr A A Whalley in the Technical Institute, Dartford, on Thursday evenings throughout the session

MR JOHN EDWARD WHITE, who for 40 years was employed at the Ramsbottom Paper Mill, has just died at Ramsbottom, having been in failing health for the past two years

At an inquest held at Maidstone, on the body of John Horton, aged 61, a papermaker at Iovil Mill, whose body was recovered from the Medway, a verdict was returned of "Found Drowned." It was stated in evidence that the deceased suffered from a weakness in his legs and complained of giddiness

MR GEORGE FERRELL M P, will preside at a conference in Sheffield on November 1st of the National Union of Manufacturers, of which he is president. He will be supported by the vice president Mr Frank P Dorizzi, and Mr Arthur F Beck, vice chairman of the Midland Council

EMPLOYMENT in the paper trade is officially described as generally bad, and a number of discharges were reported owing to mills having closed down during September. Nearly 35 per cent of the workpeople covered by returns were working, on an average, sixteen hours per week short of full time

JOINT INDUSTRIAL COUNCIL—A well attended meeting of the Joint Industrial Council of the papermaking industry was held on Thursday afternoon last week at 26-27, Farringdon street, with Mr C R Seddon, J P, in the chair. A number of matters arising out of the recent reduction in wages were dealt with, and a report on the general conference of Joint Industrial Councils which was held on September 20th was submitted by Mr W Ross. The present state of unemployment in the industry was fully discussed, together with its bearing on the Safeguarding of Industries Act

MISPLACED PAPER ECONOMY—Mr Justice Swift, at Northampton Assizes on Saturday, rebuked the magistrate's clerk for using what appeared to be all the waste paper he could lay hands on to write the depositions on. 'I am glad to find someone is practising economy,' replied counsel for the prosecution. The Judge: 'Economy ought not to be practised at the expense of efficiency, and courts of justice must not be hampered in an endeavour to save a fraction of a farthing, which is all the difference between using this sort of paper and proper paper. Counsel having conveyed the regret of the magistrate's clerk for his action, his Lordship said, beyond recording the fact that this ought not to have occurred, he would take no other step in this case. If it occurred again such action would be severely dealt with.'



British Paper Mills and Foreign Imports.

To the Editor of the "World's Paper Trade Review"

SIR,—I he steadily increasing imports of foreign paper into Great Britain should be brought strongly to the notice of all manufacturers, dealers and users of paper in this country. During recent activities in connection with our appeal to the Board of Trade for a tariff under the Safeguarding of Industries Act against dumped imports, the question has frequently been asked by our friends in the trade "Is the case of the British manufacturer supported by import figures?" and it is surprising to note the lack of information in the trade regarding these vitally important details.

It is essential to give wide publicity to the growing imports of paper and to emphasise the fact that *these are steadily increasing* at a time when British mills are suffering badly for want of orders. The pre war imports of paper were approximately 48,000 tons per month. The following figures will show how steadily imports have increased this year —

April Imports,	16,500 tons
May	" 23,800 "
June	" 28,600 "
July	" 26,100 "
August	" 34,800 "

It will be obvious that the foreign mills are rapidly getting back to pre war volume of business with Great Britain. It is equally obvious, and unfortunately true, that British mills are running only one third normal capacity, while the orders go abroad, largely to producing countries whose currency is heavily depreciated.

If our British manufacturers can be aroused to this menace of increasing imports, and will realise the chief reason why home mills are shut down, we feel sure that the industry will be unanimous in its appeal to the Board of Trade for relief from this unfair competition.

The paper manufacturers of Great Britain have a powerful case for a tariff against dumped imports and against imports from countries with debased currency. We have felt that the mills are not fully alive to the reasons for their present difficulties and to the remedies available.

We feel certain that if the British mills grasp these facts, they will realise the critical situation that the industry is in at present, and will co operate in quick and effective action.

Yours truly,

STANLEY COUSINS,
W C POWERS

34-40, Ludgate hill, London, E C 4
October 26th, 1921

Paper Production and the Shift System

To the Editor of the "World's Paper Trade Review"

SIR,—I notice in a leaderette in your last week's issue that it is suggested in order to increase output "that it may be feasible to revert to the two shift system." If there is one thing more than another that would meet with the bitterest opposition from our members, I am certain that it would be any attempt to force them back to the hateful long drag system, which a return to 12 hour shifts would inevitably lead to.

In most mills able to work full time the speeding up which has been brought about has resulted in as great or greater output under the three shifts system as was ever obtained before under the 12 hour shifts. It must not be overlooked that in return for the boon of the 8 hour shifts the workers agreed to extend the normal working week by four hours.

The pre war conditions both as regards long hours and low wages in too many paper mills were disgraceful and the "charter of liberty" secured by the National Agreement in 1919, which abolished the old hateful conditions, is valued so highly by our members that they will stand by its provisions with regard to hours of work, etc., at all costs.

Paper mill workers have been as hard hit as any in the country through the long continued lack of employment but under the eight hour shifts system they have all been able to share alike what work has been available.

A return to the 12 hour shifts would doom one third of them to total unemployment and greatly accentuate the problem of how to prevent them and other workless men and women from starving which is at present demanding the whole time of the Government and local authorities generally.

It is fully realised by all thinking men in our trade that production must be kept up to the highest possible level compatible with the maintenance of quality in the finished product, but a return to the 12 hours shifts would hinder rather than help that desirable end. No man working at the pressure expected now a days could possibly keep up the same unremitting attention to his work for 12 hours per day without a break for meals six days to the week.

Progress has undoubtedly been made in scrapping obsolete machinery and installing up to date machinery, but much more remains to be done in that direction to enable the employees to increase the output to the fullest capacity.

Yours, etc.,

WM ROSS,

General Secretary, Papermaking
Section of the National Union of
Printing and Paper Workers

Manchester, October 25th

The British delegates who attended the chemical convention in Canada had an opportunity of inspecting various pulp and paper mills in the Dominion.

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FRIDAY OCTOBER 28 1921

Unemployment in the Paper Trade

UNEMPLOYMENT generally continues on the
downward grade following the slackened
pace between July and August. The actual
variation, however, is affected by the fact that
some people are now out of benefit, and even
in the light of the official figures the decline
of unemployment in the paper and allied
industries is small, a state of things which
tallies with the general market conditions.
The paper and allied trades contribute their
share to the decline, except in regard to part
time occupation, where the figures show a
slight increase so far as male employees are
concerned. Statistics published by the *Labour
Gazette* for the month of September give the
total number of insured workpeople in paper

making and staining as 56,840 (38,590 males and 18,250 females) The number of unemployment books remaining lodged at September 30th was 5,824, representing a percentage unemployed of 10.2 The males were 3,763, or 9.8 per cent and females 2,61, or 11.3 per cent The decrease in unemployment on this basis compared with the end of August was 1.2—0.9 in the case of males and 1.6 in the case of females As already indicated, systematic short time reveals rather less promising figures The total of 5,866 short time workers claiming benefit at the end of September represents a total increase of 255 the increase being entirely confined to male workers The percentage on systematic short time at the end of September was 10.3, showing an increase in the case of males of 0.7 and a slight decrease in the case of females, the total increase being 0.4

Manufactured Stationery

COMING to manufactured stationery we find that out of a total of 68,390 employees 5,863 were represented by unemployment books of whom 4,041 were females The total percentage unemployed at September 30th was 8.6 males and females being almost equally affected The total decrease on this side of the account is 2.0 per cent Short time working also revealed a declining tendency, the total of 2,419 on systematic short time representing a decrease of 982, of whom a large majority are females, viz, 869 The total percentage on systematic short time is 3.5, representing a decrease of 1.5, the greater number of persons absorbed being women

Printing, etc

In the printing, publishing and bookbinding section the estimated number of insured workpeople is 220,160, and the number of unemployment books remaining lodged at September 30th was 15,475, of which 5,266 represented females and 10,209 males The percentage of unemployed at September 30th was 7.1 in the case of males and 7.0 in the case of females, the total decrease in unemployment being 0.7 per cent Short time workers totalled 2,431, comprising 1,071 males and 1,360 females, the declines, compared with August 26th, being 167 and 635 respectively The percentage on systematic short time at September 30th was 0.7 males and 1.8 females, declines of 0.2 and 0.8, being a total decrease of 0.4

News-Print Consumption

Consumers of news print in America seem to be getting away from the stagnation mark

much quicker than their *confreres* on this side Reports are to hand of increasing circulations and more extended advertising The improved demand which is thus indicated is, it appears, extending to the paper market generally Diminished supplies and higher prices are accordingly foreshadowed It is to be hoped that similar movement will be more conspicuous in this country before long, and a reduced price for news print at 2½d per lb will, perhaps, help things along In this connection we may mention the extent of the importation of news print during September The total figure was 8,523 tons, of which 1,266 tons came from Newfoundland Thus the remaining 7,000 is less than the normal weekly output of news print in this country, which is round about 9,000 tons Of the Continental imports Finland sent 2,850 tons and Germany 139 tons

Paper Economy

THE strong protest which Mr Justice Swift made at Northampton against the use of scrap paper for depositions, brings to mind the fact that the economies preached during the war are still being practised to an inordinate extent Servicable as they were at the time, the occasion has passed away for the rigid stinginess in regard to paper which not only stifles business, but makes a bad impression wherever its evidences are apparent The learned judge was evidently of opinion that for serious work paper of a respectable character should be used With economy being preached in every direction, people are not apt to discriminate There may be wasteful economy just as there is economic waste Pure luxury expenditure may be waste, but the outlay on decent paper increases self esteem and promotes business It seemed a little bit contradictory a while back when certain Labour leaders, at a time when economy was being urged, suggested that the Stationery Office should anticipate its requirements and place orders for stationery and printing which would not be required for some time The civil servants who have had the economy stunt preached into their ears *ad nauseam*, must have been highly amused at the anticipatory proposal, unless they saw in it a more sinister move What is desirable is the exercise of discretion, and a little more licence in the purchasing of paper would help at least one industry and the multitude of people who handle its products

A Postal Anomaly.

THE attention which Messrs Spicer Bros have drawn to an absurd postal anomaly may have some effect upon the authorities, although

It is no easy task to cut the Gordian knot of ed tape. Following the correspondence which appears on page 1496 of this issue, Messrs Spicer have received a notification from the Post Office that it is permissible, under the Printed Paper Rate, to send with an order on an appropriate printed order form a printed page from a catalogue showing the goods required. "This means," say the paper merchants, "that a customer can send us an order for, say 50,000 envelopes, accompanied by a page from our factory catalogue to show the envelopes required, but if he should send an order for 10 reams of paper, quality as the page from our catalogue, and enclose the same page with the order, the communication becomes a letter, and is liable to surcharge sent at the Printed Paper Rate. We make no comment."

* * *

The Australian Market

THE story of how Mr J Holland secured a reference for British news print in the new Australian tariff, outlined in our last issue, indicates in some degree the sort of competition which papermakers of the United Kingdom will have to meet in the markets of the world. During the war our manufacturers and merchants lost much ground, and this has to be made up again. Only enterprise such as those behind Mr Holland displayed will help to recover the lost ground and secure the share of new business which is destined to arise in the future. What British papermakers are out for is no unfair advantage. It is only natural, of course, that Britishers in the Empire should desire to support "home industries," particularly in view of the setback which our industries received during the war and the splendid loyalty which the Australian consumers of paper are exhibiting towards some manufacturers is highly pleasing. Such loyalty also deserves good service, and that they will receive this from their blood relations cannot be doubted. A strong movement is growing up in Canada to secure for Dominion manufacturers the same preference or a rescinding of the advantage granted to our own papermakers. It is pointed out in support of the Canadian movement that Australia would have suffered from lack of paper during the war period if Canada had not worked overtime to supply it. The consumers, however, do not forget the price they had to pay for the paper. But it is to be hoped that this matter will raise no ill-feelings. After all, business is business, and our Canadian friends are quite as able to look after themselves as are our own papermakers. The battle must

go to the strong and the race to the swift. In the meantime, as the *Shipping and Export Register of Canada* says, "it would be well to refrain from violent language on the subject, as that is hardly likely to mend matters and only tends to embitter relations that should on every account be cordial."

Personal.

LORD DOVERDALI attended the jubilee celebration of the Manchester Reform Club last week. He was one of the honorary members elected by virtue of having been associated with the club for 50 years.

THE governing body of the International Labour Office at Geneva have unanimously agreed to elect Lord Burnham as president of the International Labour Conference.

CAPTAIN W E NUTTALL on Friday addressed the members of the United Kingdom Paper Bag Manufacturers Association on the need of co-operation between the British paper maker and the British paper bag makers in the present state of the industry.

HIS very thoughtful and forceful address made a great impression upon his hearers, and will doubtless have practical results.

MR P W KENNEDY, president of the Stationers' Social Society, will preside at the autumn dinner of the society, which, as we have already noted, will take place on November 4th, at the King's Hall, Holborn Restaurant.

MR A E MIST, the hon. secretary of the society, announces that it has been decided to hold a social evening, consisting of whist drive and dance, on Friday, December 9th.

MR H BURCHAM HART, managing director of the Anglo-Canadian Wax Paper Co., is leaving England on November 2nd next on a visit to the company's allied firms in Toronto and Cincinnati.

MR SAMUEL COURTAULD has been elected chairman of Courtaulds, Ltd.

MR T LUNDGREN, managing director of the Swedish Pulp Association, is investigating the condition of the pulp and paper industry of America.

COLONEL SERLACHIUS and Director Gronik, of the Finnish Paper Mill Association, are at present paying a visit to this country.

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Costing In the Paper Mill.

A Means to Increased Production

The necessity of securing accurate information from the source, be it in the rag room, beater or machine room, or, in fact, any of the various departments contributing to the manufacture of paper or any of its constituents, is self evident, writes Mr Charles H Martin, auditor, Kalamazoo Vegetable Parchment Co, in *Paper Industry*. One of the most important problems confronting the cost accountant is impressing this acknowledged fact upon those in charge of various departments.

The average paper mill superintendent is a manufacturing man, skilled through experience to make the best paper at the greatest available speed. His knowledge of costs is limited, his conception of figures being a collection of characters devised to keep track of how many hours in a tour, a day and a week in order that the pay clerk may figure how much money is due to everybody for services. This holds good in a great many cases until the propaganda of the cost accountant has had time to bring home the bacon.

The superintendent and mill clerks are all human beings. They have a heart that will function and a brain each that is capable of absorbing many things. The cost accountant, no matter how arithmetically proficient, must know his men, their peculiarities and devise ways of winning not only their interest but to handle them in such a way that they will become, in action and in deed dependable assistants.

This is the day of the cost accountant. With prices dropping almost daily on sulphite, rags, soda, etc., prices seemingly high to day are low to morrow. His worth is shown by his handling of this situation.

It is true indeed that when he has arrived at an estimate which is nearly accurate the result of his effort may be entirely disregarded and a selling price quoted, regardless of cost, in order that the mill may run and the organisation, which has taken perhaps years to perfect, may not be broken but held together

until such time as they are functioning normally again.

It is a crime that so many mills are selling goods below cost for the very fact that they do not know what they are doing, and don't wake up until they close their doors to meet their creditors' bills on a percentage basis. The sooner we can get our competitors working along correct, consistent, intelligent lines and eliminate ignorance, then and only then will the master papermaker come into his own and the profits of the efficient will prove that they are such.

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Canadian News-Print.

Service to the U S Market

The Canadian Pulp and Paper Association has issued the following statement in regard to Canadian news print in the American market -

Canadian production of news print paper increased from 150,000 tons in 1919 to over 850,000 in 1920. To day the Canadian news print mills are equipped to produce about 1,000,000 tons of paper a year. They are supported by what is admitted to be the greatest potential pulp wood reserves in the world.

About 80 per cent of the output of these mills is marketed in the United States. During the twelve months ended August 31st American newspaper publishers purchased and used no less than 637,266 tons of Canadian news print, exceeding the record of the preceding twelve months which included the period of the greatest demand for news print ever known.

Contracts for next year's supplies of news print are now being negotiated. They show no diminution in the American demand for Canadian paper.

The Canadian news print manufacturers, while appreciating fully these evidences of confidence and goodwill upon the part of their American customers, realise at the same time that it would be impossible for them to hold this confidence and goodwill if it were not to the advantage of the American publisher to buy his paper in Canada.

They believe that the quality of the paper they supply, the service they are able to render to their customers, the advantage they are able to offer through the proximity of their mills to the American publishing centres, their fair dealing and reasonable prices are the factors which have brought them and will continue to bring them their American trade. They take pride in the fact that their long connection with and intimate knowledge of the American publishers' requirements enable them to supply paper best adapted to their needs and with a variation in weight and quality not greater than $\frac{1}{4}$ of 1 per cent. They

maintain expert traffic departments to control shipments from the mills to the customers' warehouses, which obviate irritating delays and other shipping annoyances. Their situation enables them to ship at short notices, relieving their customers of the necessity of maintaining large reserve stocks and of tying up large amounts of capital, a distinct advantage in a market whose normal reserve stocks do not exceed 70 days supply and frequently drop to less than half that amount. They recognise that the exigencies of the newspaper publishing business require the elimination so far as is humanly possible, of all risks of non or uncertain deliveries. They believe it is of benefit to the publisher to be in close communication with his source of supply so that errors may be checked up and reparations secured, when due, without delay.

The Canadian news print manufacturers are confident that these factors outweigh in the long run the mere question of cheapness and particularly so when cheapness is dependent upon the accident of a debased currency, which, at best can only be of temporary duration. They do not doubt that sensible American newspaper publishers realise fully their dependence upon a permanent supply of news print produced on the American continent whatever temporary advantage may be offered by a transient supply of low priced paper which will disappear with the causes that now alone make it possible.

They give the American publisher full credit for the ability and the willingness to examine the news print question on its merits in its broadest aspects both as to immediate expediency and future requirements and they entertain no apprehension as to his ultimate and intelligent judgment.

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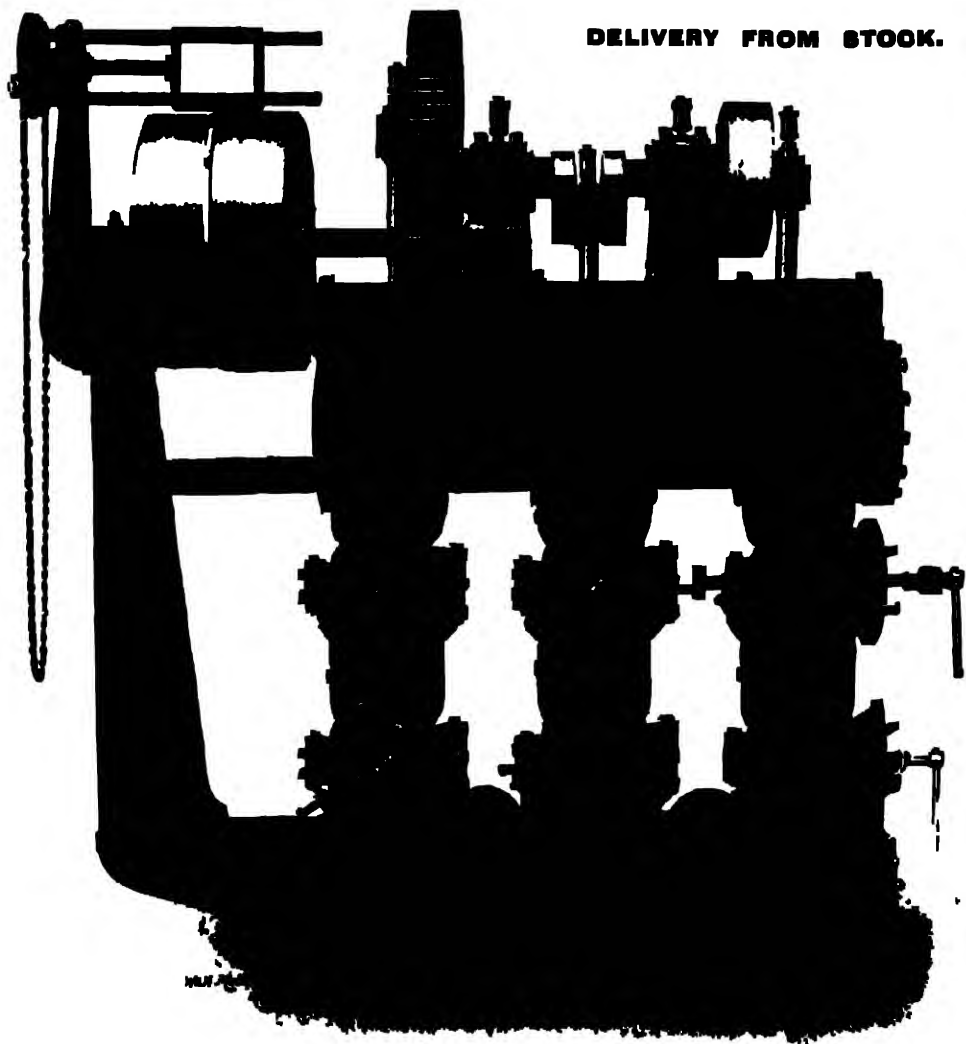
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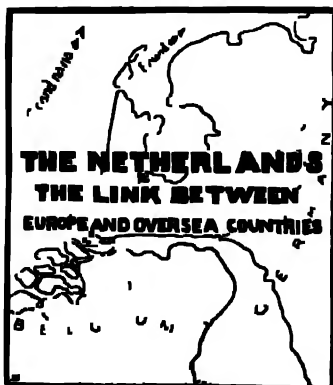
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Moisture Content.

British Papermaker's Experience

Mr W H Silvester comments upon the article on this subject which appeared in our issue of October 14th as follows —

I read with interest the article "Moisture Content" in your issue of the 14th inst but there are several points I do not quite agree with

The article states a properly formed sheet will press without rushing and when reaching the dryer unit of the machine will permit the moisture contents to be easily evaporated without cockling or the making of broke

Now, my experience is that you may have a properly formed sheet on the wire but if the stuff is too soft or slow you will have crushing at the coucher and if the top coucher is slightly eased you will still have crushing at the first press

As regards cockling, I have found this will be caused by the second press being dirty or having the first drying cylinders too hot

In making some grades of fine papers the stock must be beaten rather finer than for others, but long free stock will allow evaporation more readily than finer stocks

Mr John Brassington made the following contribution The amount of water used with the prepared pulp from the beating engines as the mixture runs on to the wire varies according to the character of the stock and of the paper to be made, but I have found this variation to fall within certain limits for the same class of paper manufactured, providing the machine man is skilled in his work and uses good judgment in regulating it

In reference to this point, I may say the machine man is limited as to the quantity of water that can be used For instance, if flooding is taking place at the dandy or the water too far over the boxes, water must be reduced or a little shake taken off (if the appearance of the sheet wire stand it), or if the stuff is

too soft, the only way to overcome the trouble is by slowing down the machine On the other hand, should the stuff be too free, additional water added and more shake on the wire will make a material difference in the appearance of the sheet I agree the table rolls help to get rid of the water, but the more important thing in making fine papers is the shake on the wire

I may add it is a recognised fact from practical working that some papers require a sharp, short shake, while for other grades a long slow shake is preferable to obtain best results

American News-Print Production.

The 44 companies in the United States and Canada reporting to the News-Print Service Bureau produced 143,472 tons and shipped 142,393 tons of news print paper during September Production exceeded shipments by 1,079 tons Production figures include 1,099 tons of hanging paper, of which 268 tons was produced in Canada

The average daily production of news print paper by the mills reporting for September amounted to 73.7 per cent of the average daily output during the three months of greatest production in 1920, allowing for new machines recently started Production during September was 6,242 tons or 4 per cent and shipments 5,238 tons or 4 per cent less than in August, there being two less working days in September

Production by the reporting United States mills during the first nine months of 1921 was 229,882 tons or 24.4 per cent less than in the first nine months of 1920, and production by Canadian mills decreased 82,491 tons or 12.4 per cent during the same period, making a total decrease of 312,373 tons or 19.4 per cent by the 44 reporting companies

Total stocks at reporting mills on September 30th amounted to 40,630 tons, or 957 tons more than on August 31st and were equivalent to about five days maximum production

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Latvian Paper Industry.

Present Production of the Mills

At the beginning of the war there were five large paper mills in Latvia. The output of these mills in 1913 is shown by the following figures in thousands of poods. The Legat paper mills produced 432.0, the Schlock, 700, the Jugla, 320, the Staizel and the Litten (together), 350, a total of 1,702.9 thousand poods, of the value of 75 million gold roubles.

The paper mill at Schlock suffered most of all during the war, then come those at Ligat and Jugla. The brown paper mills at Staizel and Litten suffered least of all.

When Latvia became independent in 1919, the monthly output of all the paper mills only amounted to 4-5 thousand poods of paper of an inferior quality. At the present time three mills are working in Latvia. These are at Litten, Staizel and Ligat. Their monthly output amounts to approximately 46,500 poods of paper of different kinds, 31,500 poods are free for export as only 15,000 poods of paper are required for home consumption. The mills at Schlock and Jugla are expected to open shortly. This will add about 30,000 poods to the exportable stocks of paper.

Besides the paper mills, three cardboard mills have lately been opened—the Milman, the Sonner and the Mantel mills. The monthly output of these amounts to about 17,000 poods. Only 5,000 poods of cardboard are required for local needs, and 9,000 poods are exported abroad.

The above mentioned paper and cardboard mills use 2,606,800 cubic feet of wood pulp and 8,986,000 cubic feet of firewood annually.

Three truck loads of brown and white cardboard have been dispatched to Vilna and Danzing by the Latvian firm B. Mantels.

THE Joint Industrial Council for the Printing Trade have approved the Costing System of the Federation of Master Printers.

Paper Trade Unionists.

According to statistics published in the *Labour Gazette* there were 28 unions at the end of 1920 in the paper, printing and allied trades. These had a total membership of 216,524 of whom 146,177 were males and 70,347 females. At the end of 1919 there was a total membership of 192,840—132,080 females and 60,760 males. The total increase was 12.3 per cent, 10.7 per cent in the case of males and 15.8 per cent in the case of females.

A further table shows the increase of membership since 1916, when the trade unionists numbered 99,000, a figure which has steadily risen to 217,000. Male members in the unions referred to were 89,000 in 1916 and female members 10,000.

Finnish Paper for Russia.

Newspaper references continue to be made to Russia's purchases of paper in Finland. A very big figure is mentioned though the period covered by the contracts is not mentioned. According to a Rosta report, published by *Svensk Handelstidning*, thirty-eight waggon loads have left one mill and there is to be another consignment of 50 loads of ten tons each.

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Messrs. Chas. E. Corke and Co.

A Finnish Agency and Business Development

Important developments are taking place in the business of Messrs Chas E Corke and Co., of Bank Chambers, Ludgate Hill who have just taken over the agency for the United Kingdom of the whole of the news print output, glazed and unglazed, of the mills belonging to the Finnish Paper Mill Association. The 17 mills, with a capacity of from 90,000 to 100,000 tons per annum, comprise the whole of the mills in the group, with the exception of the Kymmene Co's works.

Mr Win Corke and Mr Chas Corke have just returned from an extended visit to Finland where they had an opportunity of personally examining the conditions under which the mills are producing and they are both full of optimism and confidence as to the strength of Finland's position as a paper making country, and the part she is destined to take in supplying very considerable tonnage to this country.

The strength of her position, said Mr Win Corke, is not bound up in the question of exchanges at all, but is based on the sterling fact that nature has obviously earmarked Finland as a papermaking country. She possesses unlimited virgin timber, an abundance of water power, facilities for water transport and an adequate supply of industrious hardy workpeople.

Up to the beginning of 1918 Finland was, of course, under the domination of Russia and only since that time has she had a fair chance of showing what she can do. No time, however, has been lost. Attention has and is still being given to every detail of engineering which makes for efficiency in the finished article and the satisfactory working of the paper produced. Naturally there have been many difficulties. Immediately following the war all engineering firms were congested with orders and the delivery of new appliances of any kind was a matter of difficulty and delay. But all these troubles have been gradually surmounted, and it is safe to say that Finland can with confidence undertake and carry out in the most satisfactory manner the requirements of English news print users. Standardisation is being organised throughout the whole group of mills in the Association.

Mr Corke mentioned that Colonel Serlachius and Director Gronvik have arrived in London this week, to ascertain first hand the market conditions prevailing here, and also to renew their friendship with a number of their English clients.

In order the more effectively to carry on the new agency, Messrs Chas E Corke and Co have taken additional premises at 14, New Bridge-street, from which the whole of the news print and journal paper business will be organised.

The question of German competition being mentioned, Mr Corke observed: "As a matter of fact, the selling of German paper to day can only be likened to trying to deal with quicksilver. It looks attractive, but it is absolutely illusive. It is true that a fair tonnage of German news print has been brought into this country, but the newspaper proprietor must be assured of regular supplies at a fixed price for a reasonable length of time. Germany's low prices are purely a question of an inflated exchange, and no one knows what may happen in that direction at any moment. The dealings are limited to very confined periods. One hears for instance of preposterous quotations being made but I should feel very doubtful of any body obtaining delivery of substantial tonnage at anything like the figures that are mentioned."

"At any rate we are taking a *wide perspective* of the trade and basing our policy on the fact that our Finnish group of mills are making and supplying now and for the time to come a first class article at an attractive market price—not mark you, at a ridiculously low figure, but at a figure which fairly corresponds to the difference represented by the convenience of regular delivery, which home suppliers can give."

I wish to emphasise the fact, added Mr Corke, that we are not undercutting the English market. Where price is an important factor for the buyer or where he wants to lighten his existing contracts with paper at a shade lower price, the Finnish paper offers him that advantage.

Wood Pulp Fire.

Four Thousand Tons Involved at Sittingbourne.

A serious outbreak of fire occurred on Monday among the pulp stacks of Messrs Edward Lloyd Ltd, at their wharf at Milton Creek, Sittingbourne. The wharf was heavily stored with pulp, of which numerous stacks of considerable value were in danger. Four of the stacks, each containing 1,000 tons of mechanical pulp, were involved, the material burning for the whole day. Outside fire brigades had to be called in to give assistance to the Milton and Sittingbourne firemen. A strong wind was blowing at the time with the result that the pulp burned furiously, and gave great difficulty to the firemen, whose object was to save the remaining stacks. It was not until midnight that the outbreak was got under control.

Reductions in the pulp and paper operations in Western Canada are expected to contribute to the increase in unemployment this winter.

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THE WORLD'S Wood Pulp Industry

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THE following rates were current on the dates mentioned (par of exchange to £1—Christiania Kr 16 159, Stockholm, Kr 18 159, Helsingfors, M 25 22½) —

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Oct 20	30 60-31 30	16 85-17 05	245-250
" 21	30 38-30 70	16 95 17 05	245 255
" 22	30 40-30 60	16 95-17 05	245 255
" 24	29 75-30 25	16 95-17 05	245-255
" 25	29 46 30 20	16 95-17 05	250-260
" 26	29 90-30 30	17 00 17 10	250-260

British Imports—Sources of Supply.

THE arrivals of wood pulp at British ports from various countries during the week ended October 15th, 1921, were as under —

BLEACHED CHEMICAL—DRY

Sweden	60 tons	£1 443
Holland	50 "	980

UNBLEACHED CHEMICAL—DRY

Finland	1,722 tons	£20,841
Sweden	1,455 "	57 104
Norway	100 "	4 112
Germany	60 "	918

CHEMICAL—WET

Sweden	32 tons	£310
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MECHANICAL—WET

Norway	4 566 tons	£21,998
Sweden	3,145 "	37,991

MECHANICAL—DRY

Germany	24 tons	£256
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United Kingdom

'A LITTLE more life in the market,' is still the report regarding the pulp situation

A FEW inquiries are coming to hand, these, however, referring only to small quantities for immediate requirements

APPARENTLY some paper mills have ample stocks in hand, and are still glad to offer some for re sale

ACCORDINGLY we even hear of consignments of easy bleaching going abroad

THE chemical market generally is described as better

PRICES for German pulps appear to be hardening

MECHANICAL pulp is very firm

PRICES have been slightly rising, and the quotation of 92s 6d, c i f, for prompt shipment is said to be hardly acceptable to Scandinavian sellers

By the end of next month it is expected the price of mechanical pulp will be £5 per ton, the scarcity of material and of water influencing the price

THE Norwegian mills which have been closed on account of the strike have just started up again, but it is doubtful to what extent they will be able to meet the shortage which has arisen

Norway

THE somewhat better conditions in the paper market are reflected in pulp dealings, particularly in regard to wet mechanical

CHEMICAL pulps are however, rather easier, with the exception of kraft pulp. The orders coming forward are however, only for small quantities

A decided improvement is noted in the mechanical market

OWING to the scarcity of water, production will be limited during the winter months, which fact together with a possibly good demand, is expected to cause prices to rise still further

A BOOM in sales of mechanical wood pulp is mentioned as a possibility of the near future

Sweden.

A LITTLE more cheerful feeling prevails in the pulp market, although sellers are still up-

certain as to whether the improvement is momentary or is a precursor of better times

SEVERAL autumn sales of varying quantities of chemical wood pulp, against buyers' account, have lately been announced by Swedish mills

INQUIRIES have been received for small parcels of easy bleaching and strong sulphite for prompt shipment, both from the United Kingdom and the Continent

FOR the most part, however, German and Finnish dealers are receiving the orders by reason of their quotations being such as the Swedish manufacturers cannot compete with

FINNISH cellulose manufacturers are reported by *Affarsvarlden* to have placed a couple of cargoes of sulphite with Japan at prices which are £2 to £3 per ton lower than the Swedish quotations

THE result of the competition is to force down Swedish quotations for bleached and unbleached sulphite, with the exception of kraft pulp, which is firm and unchanged at kr 200 to 210 per ton net f o b

ON account of the falling rate of exchange for the Norwegian crown pulp makers in Norway are stated by *Affarsvarlden* to be in a favoured position, and a number of sales of wet ground pulp have been made to that country at prices which were 15 to 20 per cent below the Swedish quotations

THERE are no sales reported of dry mechanical pulp, Finnish pulp makers taking at very reduced prices the few orders that are coming into the market

PULP producers are anxious about the extent to which German and Finnish competitors can undersell them owing to their lower costs of production

IN this connection it is pointed out by the Stockholm correspondent of *The Times* (Trade Supplement) that the export of wood pulp during the nine months January to September is estimated at barely 100,000 tons dry weight, against over 200,000 last year

United States

THERE is a better tone in the pulp market generally, and more business is reported, not alone in mechanical pulp, but in one or two descriptions of chemical

SODA pulp has been quite a prominent feature of late, and the present demand is said to closely approach normal

THE fact that some mills are running at full capacity is favourably affecting the paper situation

DEMAND for kraft pulp continues and is marked by advancing prices

THE market is now free from odd lots and dealers are optimistic about the immediate future

PRICES are stiffening and domestic Mitscherlich is among the qualities which are marked higher

IMPORTATIONS into the port of New York continue heavy

MECHANICAL pulp is still moving forward

WITH a good demand and the absence of large tonnage prices are becoming firmer so much so that a normal condition of things so far as mechanical pulp is concerned is confidently predicted

THE absence of water is causing anxiety, and unless rain is forthcoming in sufficient quantity it is anticipated that the price of mechanical pulp will go to \$40 a ton, at which figure it is reported some business has already been carried through

Canada.

THE pulp market shows signs of improvement but only to a limited extent

FOR certain grades of chemical as well as for mechanical pulp, there are signs of a growing demand

THE paper industry is moving slowly forward, and reports forthcoming lead to the hope that before long there may be some good business in pulp circles

MR HENNING HELIN, general manager of the Western Canada Pulp and Paper Co visited the West Kootenay district in order to report on the prospects and possibilities of establishing a pulp and paper industry at or near Nelson

THE report of Mr Helin stated that there were ample supplies of raw material available to meet the requirements of a 100 ton sulphite mill a 150 ton sulphate mill or a 200 ton ground wood or news print mill

AS, HOWEVER, the market is most favourable for paper he recommends the installation of a paper mill

FINLAND for the nine months ending September, 1921, exported 89,500 tons of paper, 20,500 tons of wood pulp and 5,900 tons of pasteboard, as against 104,400 tons, 150,000 tons, and 30,200 tons respectively for the same period last year

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SAMPLES and PRICES on Application to
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BRITISH IMPORTS OF CHEMICAL AND MECHANICAL WOOD PULP.

For the week ended October 15th, 1921.

COMPILED FOR THE "WORLD'S PAPER TRADE REVIEW," BY ARRANGEMENT
WITH THE BRITISH WOOD PULP ASSOCIATION

An Official Account of the Registered Quantities and Values of Chemical and Mechanical
Wood Pulp Imported at the various Ports of the United Kingdom.

BLEACHED CHEMICAL—DRY.

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Oct 11	London	Feyoitt	Rotterdam	260	50	980
" 11	"	Saga	Gothenburg	50	10	250
" 11	"	"	"	250	50	1,193
			Add to Amend			
Sept 7	London	Leo	Christiania	1,960	45	16,000
						Constauids, Ltd

UNBLEACHED CHEMICAL—DRY.

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Oct 11	London	Utani	Narvik	8,178	1,820	15,843*
" 11	"	Bruno	Christiania	800	100	4,121
" 12	"	Poltia	Hamburg	180	25	287
" 12	"	Justin	"	70	14	221
" 14	"	Jagerstrand	Kotka	805	90	800
" 16	Hull	Steilia	Helsingfors	1,528	252	2,398*
" 18	"	Baltic	Gothenburg	540	100	1,300
" 14	"	Pello	Gothenburg	158	30	553
" 11	Manchester	Borderland	Hamburg	10	21	810
" 12	S Shields	Wilhelmina	Kiamfors	900	150	7,006
" 12	"	"	Gefle and Skutskai	5,500	1,100	40,386
" 11	Leith	Ingeborg	Gothenburg	127	20	560
" 11	"	"	"	250	50	800
" 18	"	Meteor	Sundsvall	800	100	4,900
			Add to Amend			
Sept 6	London	Gosta	Halmstad	—	—	197
						Johnsen Jorgensen & Wettre

* Under Query

CHEMICAL—WET

Add to Amend

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Sept 4	Glasgowmouth	Vina	Stockholm	120	32	410
						J T Salvesen & Co, Ltd

MECHANICAL—WET.

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Oct 10	London	Falvik	Udeviken	7,975	1,595	19,197
" 10	"	Bruno	Drammen	1,300	250	1,200
" 12	"	Ivar	Skelleftea	7,700	1,540	18,804
" 10	Grimsby	West Marsh	Kollafors	11,205	2,251	5,431
" 14	Manchester	Skotfoss	Drammen	5,467	1,093	5,200
" 14	Preston	Daede	(Lansens and Enge Nordmoie)	3,965	793	5,480
" 12	S Shields	Bessheim	Christiania	898	179	1,617
						Johnsen, Jorgensen & Wettre

MECHANICAL—DRY.

Date	Port	Vessel	Port whence	Quantity	Value	Importers
				Bales	Tons	£
1921						
Oct 10	Manchester	Desdemona	Hamburg	1,000	24	256
						J B Darwen & Co, Ltd

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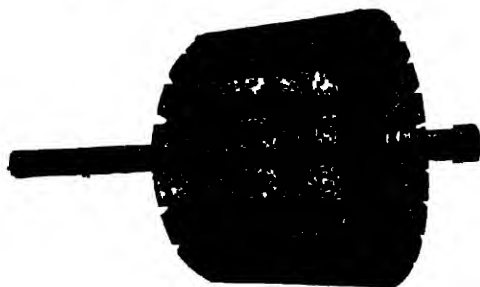
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133/139, FINSBURY PAVEMENT, LONDON, E.C.2.

New Chemical Pulp Process.

Dr Richard Muller, of Eilenburg, has been granted the German patent No 339 303 for a new process for the manufacture of chemical wood pulp. He has found that weak acid mixtures with oxidising qualities, as for example watery solutions of sulphuric and nitric acids or nitric acid such as the waste from the nitrating process, are suitable for disintegrating wood which is laid therein in the usual form of snail chips. The ligneous tissue together with the other incrusting matters are so altered that simple washing with weak alkaline solutions will completely remove them.

If pine wood is treated for fourteen days in a nitration wash water containing 3 per cent nitric acid and 10 per cent sulphuric acid at a temperature of 20 degs C, it becomes so altered that after treatment with a half per cent solution of caustic soda it yields a pulp free from lignin and easily bleachable amounting to about 52 percent of the original wood. Weaker acids such as a half per cent to 1 per cent HNO₃ at a temperature of about 60 degs C have given excellent pulp with a good yield after two days' treatment.—M A

Hydration of Sulphite Pulp.

In a note in *Papeterie* it is shown that sulphite pulp, especially when prepared by cooking at a low temperature with a weak acid, hydrates very readily in the beater, owing to the presence of hemicelluloses. This is very desirable for parchment or greaseproof papers, but must be avoided in the manufacture of print or writing papers. Esparto pulp, being a soda pulp, does not easily hydrate, and may be advantageously mixed with sulphite to reduce the tendency of the latter to hydrate too readily. Moreover, esparto gives suppleness and bulk to the paper and makes it take the ink particularly well even under moderate pressure, which is especially important for lithographic work.

More Uses for Wood Pulp.

Mr B Jirstka, of Berlin, has invented a method whereby wood pulp is pressed between hygroscopic rollers or surfaces to produce a crumbly mass, this mass is moulded under pressure, whereby more moisture is expressed into slabs, plates, non conducting coverings, household articles, bee hives, bodies of violins, and other musical instruments, etc., and the moulded articles are dried. The drying may be effected by heating the mould in which case it is advisable to remove the core to allow of shrinking, or by immersion in boiling oil varnish, etc., or by treatment in alcohol at ordinary temperature. To increase the elasticity, dried and powdered pulp may be added to the pressed pulp before moulding. The articles may be polished after the application of a silicate or dry pulp to the surface, and may be reinforced by cores inserted before the pulp has hardened, or by beating in metallic ornaments, the article being locally softened by liquid if necessary.

Felt Washer.

The object of an invention by Mr John I Ayres, for which a British patent has been granted, is to provide a simple and efficient felt washer and napper which may be inserted in the paper or pulp machine and brought into use when desired to treat the felt. The felt may be renovated without removing it from the machine and the cleaning operation may, if desired, be carried on simultaneously with the running of the paper or pulp machine. The renovating elements comprise spray pipes arranged for directing cleaning fluids against the surface of the felt, suction means and a nappy device.

The Finnish Consulate General in London has now been officially informed that the Law about deck cargo will definitely not be enforced this year in Finland.

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EXPANDING Cylinder Moulds and Dandy Rolls.

British Improvements.

A British patent has been granted to T J Marshall and Co., Ltd., and Mr Rowland Egerton Wedgwood, Campbell Works, Stoke Newington, covering an invention relating to improvements in expanding cylinder moulds and dandy rolls employed in papermaking machines, and to the class of mould or roll which is made in separate segments which are adapted to be moved radially relatively to the axis of the cylinder or roll so as to expand or contract the periphery of the latter as may be necessitated in ordinary practice in the operation of papermaking machines.

In such moulds or rolls as heretofore constructed the movable segments are mounted on a hollow shaft or sleeve and their inner ends are provided with wedges which extend through slots in the said sleeve and bear against wedges on a spindle extending longitudinally through the sleeve and capable of being adjusted axially therein, such axial movement in one direction expanding the segments. With this construction, as will be understood, the reverse or contracting movement of the segments must be effected manually.

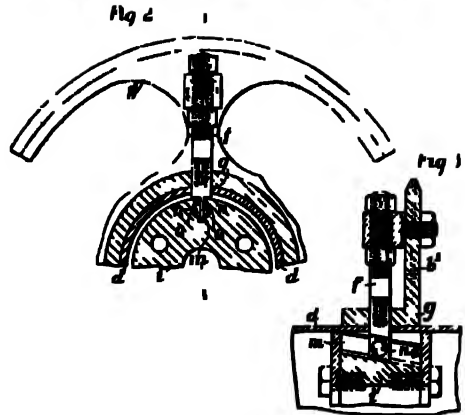
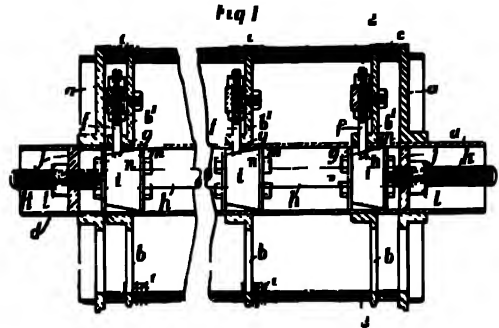
The invention has for its object to provide means whereby the adjustment of the segments can be effected more easily and with greater provision than heretofore, and to this end the inventors arrange for the radial movement of the segments to be positively effected in both directions.

In a suitable arrangement for carrying out the invention each movable segment is carried by a number of radially disposed pins or rods, the inner ends of which extend through radial holes in the hollow shaft carrying the cylinder or roll and engage in slots in cones or cams carried by the central spindle in such a manner that they can slide in the said slots, means being provided whereby they are retained within the latter so that the movement of the radial pins or rods is positive in both directions. For example, the inner ends of the pins or rods may be furnished with lateral expansions which engage in corresponding expansions in the slot.

Referring to the sketches Fig 1 is a longitudinal section of an expanding cylinder mould or dandy roll provided with our improvements, and Fig 2 is a section on the line 2-2, Fig 1, but drawn to a larger scale. Fig 3 is a section on the line 3-3, Fig 2.

The cylinder mould or dandy roll comprises a pair of end discs *a* and a series of intermediate discs *b* around the peripheries of all of which is fitted wire gauze *c*, the said discs being fixed upon the hollow shaft *d* by which the mould or roll is rotated. The movable segments comprise separate portions *b'* of the discs *b*, gauze *c* covering the same

f indicates the radially disposed pins or rods carrying the movable segments *b'*, the inner ends of which rods extend through the holes *g* in the hollow shaft *a* and central portions of the discs *b*. *h* is the spindle or cam shaft which extends through the hollow shaft *d* and *i* indicates the conical cams on the said spindle. The cam shaft *h* is supported centrally within the hollow shaft *d* and near its ends by discs *j* secured to the latter shaft and having holes within which the said cam shaft fits so that the latter can be moved or adjusted longitudinally within the said hollow shaft. Screw threads *k* are formed on the ends of the cam shaft *h*, and nuts *l* on



gaging therewith and bearing against the discs *j*, enable the said longitudinal adjustment to be effected.

The conical cams *i* are provided with slots *m* in which slots the inner ends of the rods *f* carrying the movable segments engage, the said ends being furnished with lateral expansions *e* in the said slot. In the drawing the expansions *m* are furnished by balls fitting within corresponding holes in the rods *f*. By this arrangement it will be seen that the longitudinal adjustment of the shaft *h* causes the radial movements of the rods *f* and movable segments attached thereto to be effected positively in both the outward and inward directions.

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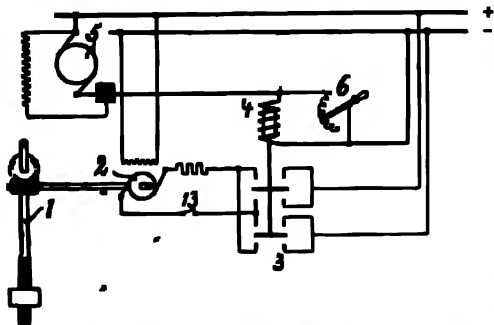
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Automatic Control of Beating.

Specially Translated for the WORLD'S PAPER TRADE REVIEW

The following description is taken from a fully illustrated and detailed article on the development of the Beating Engine, which appeared in *Der Papierfabrikant*.

According to German Patent No 316,325 granted to the Siemens Schuckertwerke GmbH, of Siemestadt, near Berlin, the automatic control of the beating process is accomplished in the following manner—The progress of the work in the beater is regulated by electrical means in accordance with a pre-

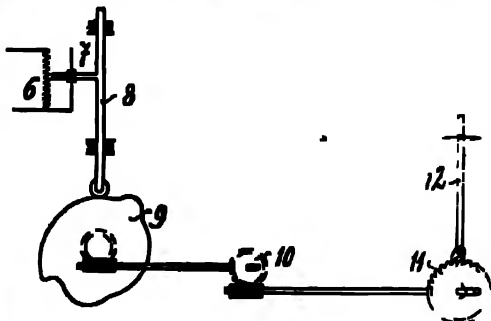


viously determined work diagram. One form of electrical regulator is so made that the spindles which raise or lower the roll are driven electrically by a small reversible auxiliary motor, which is controlled by a relay influenced by the power given out by the main driving motor. This relay and auxiliary motor so sets the beater roll that, during the whole of the beating period, the power taken remains constant.

In Fig. 1 is the spindle which alters the roll 2, the auxiliary motor which drives spindle 1, 3 the relay which causes the auxiliary motor to run right or left. This is a main current relay, the winding 4 of which takes current from the field coils of the main driving motor 5. In the relay winding 4 a variable resistance 6 is connected in parallel and may be regulated by hand, thus it is possible to select

the intensity of the power at which the beater must automatically continue to work. The starting and stopping of the whole arrangement is done by means of the switch 13 in the lead supplying the auxiliary motor.

A further advance in the automatic arrangement consists in regulating, not for constant power, but for the automatic development of a previously determined time power diagram. For this purpose the above described arrangement may be used. It is only necessary to add a contrivance which will automatically actuate the regulating resistance 6 in accordance with the desired diagram. Such a contrivance is in Fig. 2. The contact 7 of resistance 6 is mounted on a sliding rod 8 which is moved by the regulating cam 9. This cam



must be formed in conformity with the desired progress of the beating process and is geared to revolve slowly, in the present case it is driven slowly by the roll spindle through the gear 10, 11, 12 but it may equally well be driven by clockwork or other means.

This arrangement may also be used as the starting point for rendering the entire work of the beater automatic, which may be an advantage in mills where only one or two varieties of paper are made. In this case it would be necessary to fix contact or such like to the regulating cam 9 each of which would at the right time with the help of magnets, motors, etc., open and close the valves of the stuff, size, colour and loading tanks and would start and stop the motors driving the stuff and water pumps etc., so that in this way the filling and emptying of the beaters would also be effected automatically.

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CARDS—Thomas and Green Ltd, Wooburn Green, Bucks

CABLES (FIBERITE)—Thames Paper Co, Ltd, Purfleet

ENVELOPES—McCorquodale and Co Ltd, Wolverton, Bucks, Millington and Sons, Ltd, London, N, Chapman and Co (Batham), Ltd, London S W

TAGS—J Dickinson and Co, Ltd Hemel Hempstead, Fisher Clark and Co, Boston, Lincs

MOCK VELLUMS—A and J Shaw, Ltd, Grantham, H Gibbs and Son London, S W

PAPER OF VARIOUS DESCRIPTIONS—T H Saunders and Co Ltd High Wycombe, A Millbourn and Co, Ltd, Luckenhay, near Totnes, Hollingworth and Co, Maidstone, Golden Valley Paper Mills Bitton, Caldwell's Paper Mills, Ltd Inverheithing, Hendon Paper Works Ltd Sunderland, Northfleet Paper Mills, Ltd, Northfleet Inveresk Paper Co, Ltd, Inveresk, Alex Pirie and Sons, Ltd, Bucksburn, East Lancashire Paper Mill Co, Ltd, Radcliffe, W H and A Richardson Ltd Jarrow on Tyne, Fisher and Co, Ltd Tamworth, Darwen Paper Mill Co, Ltd Lower Darwen, Ramsbottom Paper Mills Co, Ltd, Ramsbottom, Robt Craig and Sons, Ltd, Airdrie, Ford Paper Works, Ltd Hylton, near Sunderland, Marsden and Sons, Ltd, Barnsley, Olive and Partington, Ltd, Glossop, Wiggins Teape and Co (1919), Ltd, Chorley, Lancs, J Allen and Sons (Ivybridge), Ltd Ivybridge, Devon, J Spicer and Sons London E C, Waterlow and Sons, Ltd London, E C, British Victoria Copier Co, Ltd, London, S E, J Cropper and Co, Ltd, Kendal, Basted Paper Mills Co Ltd, Wrotham, Kent, Philip and Tacey, London W C

PAPER FERRO PRUSSIANE—Allott, Jones and Co Ltd, Liverpool

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PARCHMENTS—Vacher and Sons, Ltd, London, S W

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The Direction of Government Monopolies, Belgrade, has invited tenders, to be submitted by 10 a m on November 1st, for the supply of 180,000 kilogrammes of paper on reels for packing tobacco

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A copy of the specification and conditions of tender, together with samples of the paper required, may be inspected by United Kingdom manufacturers and exporters on application to the Enquiry Room Department of Overseas Trade, 35 Old Queen street, London, S W 1. An additional copy of the specification, etc (without samples of the paper) is available for loan to firms in the Provinces who are unable to inspect the document in London

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UNITED STATES

Imports and Exports of Paper, etc.

The total values of the imports of paper and manufactures of paper (including printed matter) into the United States, and exports therefrom, during the undermentioned periods were —

	IMPORTS	EXPORTS
Aug., 1921	\$7,701,240	\$3,171,192
" 1920	5,769,682	6,378,349
Jan.-Aug., 1920-21	64,336,330	37,098,608
" 1919-20	49,370,169	54,383,391

The principal items shown in the official returns are as under —

Imports		
August	1920	1921
News print	\$7,236,614	\$6,707,612
Other printing paper	34,038	4,782
Paperhangings	31,788	21,493
Photographic paper	24,299	42,504
Coated paper	22,231	11,096
Wrappings	58,126	40,187
Jan. August	1920	1920-21
News print	\$39,983,308	\$54,877,866
Other printing paper	154,411	180,801
Paperhangings	240,132	266,854
Photographic paper	220,383	240,678
Coated paper	136,073	159,597
Wrappings	273,651	338,770

Exports		
August	1920	1921
News print	\$688,663	\$144,784
Other printing paper	911,485	205,838
Wrappings	523,413	135,968
Writings and envelopes	492,990	146,519
Playing cards	69,092	28,019
Hangings	102,773	12,286
Jan.-August	1920	1920-21
News print	\$3,966,907	\$1,712,872
Other printing paper	7,914,678	5,239,214
Wrappings	4,416,520	1,786,463
Writings and envelopes	5,250,734	3,631,963
Playing cards	664,383	492,719
Hangings	868,542	460,407

New British Patents.

Application

McGill D and Volor Manufacture Ltd
Treatment of fibrous materials 27,316

Specifications Published,
1920

Bevan, W W and Clarke, C F Method of
and machine for making paper cups
169,736

Inge, L Process for the manufacture of
fibrous material from wood or like cellu-
lose containing substances 169,802

Henderson, C Machine for making paper
and like cups or trays for holding or
wrapping confectionery 169,840

Complete Specifications

Open to Public Inspection Before Acceptance
1921

Bouwman J I Process for dyeing or colour-
ing wood and other fibrous material under
pressure 169,969

Soc. Parisienne d'Etudes Industrielles et
Financieres Apparatus for extracting
fibre from vegetable material 169,998
and 169,999

Waterglass Sizing.

In summing up an elaborate article on sizing with waterglass which appears in *Der Papierfabrikant*, Herr Th. Blasweiler says: "In all cases of sizing with the trisilicate an increase of strength (breaking length) up to 82 per cent is observed, in news print even as much as 185 per cent reckoned from the unsized paper. The increased carrying capacity for loading is 30 per cent of the added loader as compared with the unsized but loaded paper, and the strength of this sized and loaded paper is not less than that of the pure unsized and unloaded paper. Moreover, all waterglass sized papers show a greater affinity for water and also for printers ink, which is of importance as giving a sharper or clearer impression on the quick running press.—M A

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IMPROVED Process of Cooking Sulphate.

Mr Hermann Gevers, of Kaukauna, Wis., has been granted a patent on an improved process of cooking sulphate and soda pulp.

Heretofore, in manufacturing cellulose by the soda or sulphate process, the charge of fibrous material and liquor in the digester has usually been heated either by directly injecting steam or by the so called indirect method, in which the liquor is circulated through a steam heater and in which the steam does not come in contact with the digestion liquor. In the 'indirect' method, an injector or centrifugal pump is usually employed to circulate the liquor from the bottom to the top of the digester through the heater. Similar means are at times provided for circulating the liquor in the 'direct' cooking method. The direct injection of steam in the soda or sulphate process is objectionable, since the condensed steam dilutes the liquor. This objection is avoided by the indirect method referred to, but in this case the heat of the steam is not as efficiently utilised.

In carrying out Mr Gevers process digestion liquor is heated in a boiler which in accordance with the preferred embodiment of the invention, is direct fired so that the use of a boiler for generating steam from water is dispensed with. The liquor is pumped or otherwise forced under pressure into the boiler, is heated therein to generate steam and is brought to a suitable high temperature and pressure which may be varied in accordance with the different materials to be treated and the size of the apparatus employed.

Digesting Operation

In carrying out a digesting operation, a charge of fresh wood chips or other fibrous material and part of the liquor required for the digesting or cooking operation is placed in the cooking vessel or digester and the latter is then closed. The rest of the liquor required for the operation, which has been pre heated in the boiler, is then introduced into the digester and, most conveniently is forced from the boiler by the steam generated therein through a suitable pipe line extending from the boiler at a point below its water level and connected to the digester.

Preferably, the pipe line is provided with connections and valves whereby the pre heated liquor from the boiler can be admitted either to the top or bottom of the digester, or part into the top and part into the bottom as may be required. When the digester is thus charged, the steam generated from the digestion liquor in the boiler is introduced into the digester and preferably—as is customary with the direct cooking method referred to—means are provided whereby the steam can be introduced either into the upper or the lower end of the digester as conditions may require.

During the cooking and digestion operation, fresh liquor is pumped into the boiler, prefer-

ably as soon as the digester charge has by the introduction of pre-heated liquor and steam been brought to the temperature and pressure required for the completion of the cooking operation. The cooking of the digester charge is then continued and completed by aid of steam generated in the boiler and at the same time the boiler is utilised to pre heat the liquor for the subsequent operation or operations.

Advantages of the Process

The following advantages are claimed for the improved process —"The improved process and apparatus avoid the necessity of employing a water fed boiler to supply steam for heating the digestion liquor. As the pre heated liquor is forced from the boiler into the lower portion of the digester and also during the continued cooking operation, gas and vapour are relieved. This venting of the digester concentrates the liquor. Furthermore the generation of steam from the liquor in the boiler also concentrates the liquor so that undue dilution and waste of heat are avoided.

Again, because of the fact that the liquor is concentrated in the boiler, the liquor when first prepared can be weaker than would otherwise be the case. The preparation of a weaker cooking liquor is of course easier and more economical. A comparatively small amount of lime will furnish the desired causticity. Furthermore, the liquor in the digester can be kept at such a concentration that expensive steam evaporators and extra fuel are not required for the recovery of the alkali from the resulting black liquor. The introduction of highly pre heated liquor into the freshly charged digester reduces the cooking time. The boiler is fully utilised not only to supply steam for the cooking operation, but also to pre heat the liquor for the succeeding operation. No pump is required for circulating the liquor, which can be forced into different portions of the digester as required by pressure developed in the boiler and good boiling and circulation during the cooking operation can be readily attained by venting the digester and by admitting steam to different portions thereof. Again no heater other than the direct fire boiler is required.

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Bleaching Powder.

The manufacture of caustic soda supplies as a by product such a large amount of chlorine that the manufacturers of chlorine compounds are always assured of their raw material at a very low price, and are only limited in their output by the demand for their product. The most important chlorine industry is the manufacture of bleaching powder, or chloride of lime, as it is popularly known. It is necessary to bleach all textiles and most paper at some time or other during the process of manufacture, and sulphur has long been too valuable for other purposes to allow of its use in making sulphur dioxide for bleaching.

The history of the bleaching powder industry goes back to the period when L. e Blanc was working out his soda process, which would supply a large amount of chlorine when it was needed. It has been a curious feature of applied chemistry that interrelated industries of this sort have been worked out at the same time by different men, neither of whom knew of the other's work. It was in 1785 that Berthollet in Paris discovered that if chlorine gas were bubbled into caustic potash a solution having valuable bleaching properties resulted. This solution was named "Javel Water." This industry was developed somewhat by Watt in England, and during the next few years the change from the expensive potash to the cheaper lime was made by the cotton spinners of Lancashire.

The manufacture of bleaching powder is carried out on a very large scale, and is mainly an automatic process. It is well that this is so because chlorine is a very disagreeable sort of thing to deal with, and exposure to it is attended with painful, and often fatal results, because of its action on the delicate tissues of the lungs.

It is only necessary to expose freshly slaked lime to the action of chlorine to cause the lime to take up the gas until a product con-

taining some 35 per cent of chlorine results. This product is a dry, white powder smelling lightly of chlorine and being readily decomposed by weak acids into chlorine and a compound of lime with the acid used.

The chlorine is a little fussy about the kind of lime that it will combine with and it has to be humoured. Dry slaked lime it will not touch. If the lime is too wet the powder will not keep. Fortunately, a lime having 4 per cent extra water suits both it and the trade, so that if this detail be attended to and the lime be very pure and sieved very fine, there is not much trouble to fear. It is, however, necessary to keep the temperature below 80 degs to get good results.

The absorption is carried out in large brick chambers lined with shelves. The chlorine is turned on until the chamber is filled. As the gas is greenish yellow in colour, the absorption can be watched through windows and the supply regulated. After the absorption has slowed down the gas is turned off and the air of the chamber replaced by fresh air from outside. The workmen then go in and turn over the lime to expose a fresh surface. This part of the operation is dangerous, and many fatal accidents have resulted from the workmen going into a chamber containing chlorine. It is however quite likely that this industry will benefit quite materially from the lessons learned in the war as with a proper gas mask, all danger is prevented.

After the lime has become saturated it is removed from the chamber, usually by hand, and barrelled for storage or shipment. These barrels must be made air tight to keep air out and chlorine in and keep cool and dry in order to preserve the contents.

Besides its use as a bleaching agent chloride of lime is widely used as a disinfectant for which use it was well adapted. It has a large sale both because of its efficiency and its low price — *Engl. L. Unit.*

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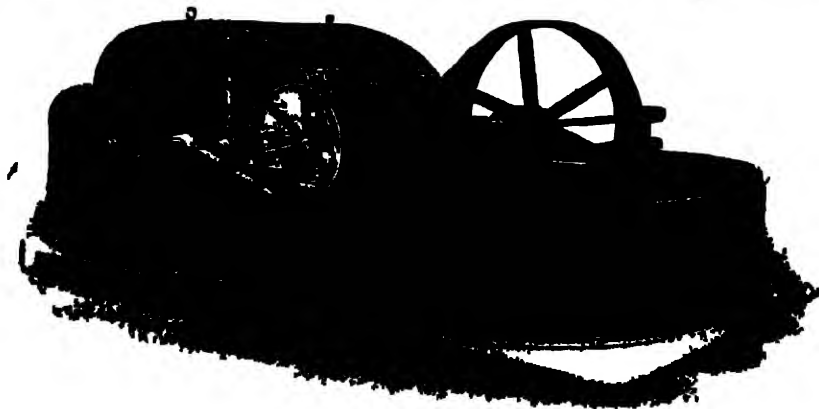
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Pulp Moisture.

Question of the Method or the Man in Testing

In seeking to establish a standard for moisture testing, are we not focusing too much on the method and too little on the man? Can it not be truthfully said that most of the troubles in moisture testing have arisen because the work was left in the hands of unqualified persons? First persons in mills with no idea of the importance of their office and employed by people who had no idea of such importance, and secondly persons with scientific training, but no idea of pulp mill conditions suddenly asked to act as referees.

Thus Mr I Lindsey Crossley in *Paper Industry*, and he proceeds

Recent trend toward excessively finicky detail is not likely to improve the conditions. The line of endeavour should be toward simplification.

The form of test that can be made in the simplest and quickest way, and get correct results in the shortest possible time should be the aim, not the perpetuation of any particular form of test.

The idea of limiting the making of referee tests to individuals with certain qualifications is good, but among those qualifications should be that of actual experience in mills.

The attitude should be that of the surgeon approaching an operation for which there is a well known technique, but which is always governed by the circumstances and by the idiosyncrasies of the patient. No surgeon would agree to standardise an operation and no referee should be required to make standardised tests, but all referees should be informed as to previous work on the subject and the circumstances of the present case, otherwise they become mere machines, and the mills would save by employing any honest handy man.

The case is different where no referee is called in, but in these again the facts are wanted and may be obscured by a dictum as to the use of this or that form of test. In such a dispute the agreement in result of two differing forms of test would tend more to a satisfactory settlement than concordant figures obtained by repetition of an identical procedure.

An instance in each case can be cited. In the first example, that of an unqualified referee, the material was in 500 pound bales

of dry sheets. They were tested by the usual man and found short. The mill's chemist then tested in a different way with the same result. A claim was made and the shipping mill sent a man from a firm of analysts who had no mill experience. He arrived without notice in the absence of the chemist broke a number of bales over the room cut wedges with bases four to eight inches wide and ignoring the fact that the pulp had been shipped about two months before and had stood for some weeks in a well ventilated wareroom, did not reweigh any part of the shipment but based his calculations on the shipper's gross and claimed to have confirmed the invoice. The consignee accepted his results and paid his fees and expenses to avoid further trouble because the referee had made a standard wedge test. If the chemist's advice to fight it out had been taken it would have been brought out that the wedge method was not standard for dry pulp in sheets and had been found faulty for this work by one of its originators who had devised the method for a very different class of pulp and package.

In the case in point the referee prejudiced his whole case by not weighing his test bales or reweighing the carlot which had stood in an open room for weeks in which case the bases of his wedges would represent the portion most likely to be affected as being the exposed edges of sheets.

A case of the other kind can be cited in which two mills made tests in the same way and were quite satisfied until a third mill made the test in a different way and was able to demonstrate the weakness of the test made by both other mills and incidentally made good on a heavy claim.

By all means let us get at the facts regarding the moisture test, and put them on record for guidance but let us not be in too great a hurry to shackle our referees.

The General Committee of the British Chemical Trade Association objects to the inclusion in the key section of the Safeguarding of Industries Act of a large number of products which are not being made in the United Kingdom and also the inclusion of products which have no apparent relation to "key industries". They submit that the inclusion of such products is contrary to the professed intentions of His Majesty's Government to confine the operation of the Bill strictly to "key industries" and makes the Act, in effect, not a key industry Act but to large extent, a tariff Act.

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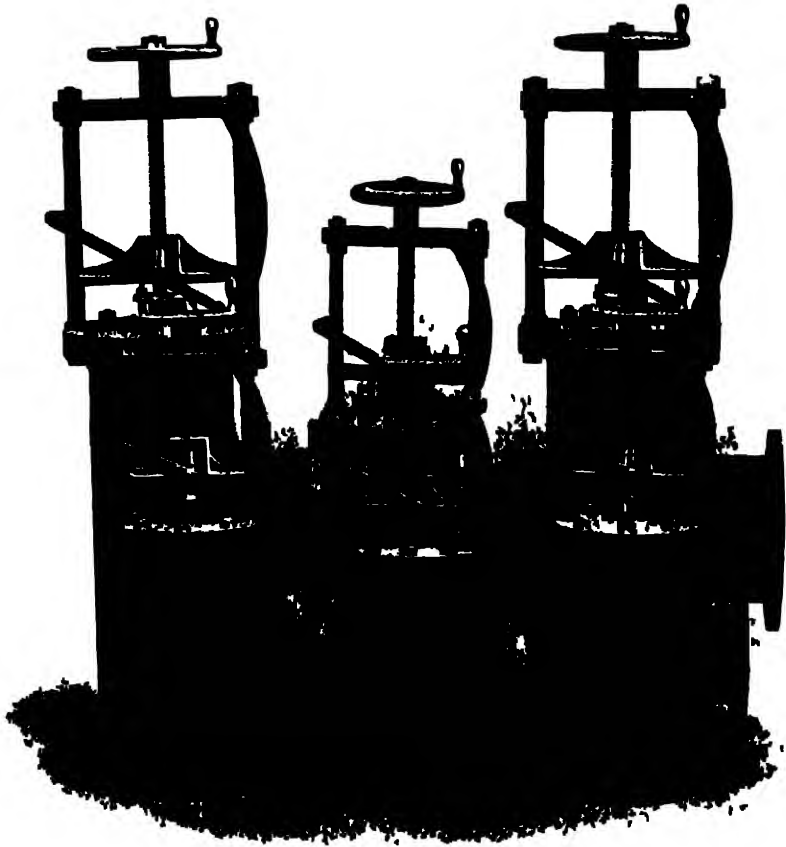
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Growing Consumption of News-Print

Better Condition Generally Reported from Canada

A review of the paper market which contains a hopeful tone is issued by the Canadian Pulp and Paper Association as follows — Evidence of betterment in the pulp and paper industry continues to multiply. American newspapers, the largest consumers of news print in the world are daily increasing their use of paper from the low level of the past few months. A decided expansion in daily newspaper advertising, much of which is of course merely seasonal, is apparent and is likely to continue at any rate until the close of the year. The 40 page daily and the 120 page Sunday paper, which disappeared altogether early in the summer are again in use. Newspaper circulation, dormant for months, has started to grow.

One New York daily reports an increase of 100,000 over last year. The *Chicago Daily Tribune* and its auxiliary publications are reported to be using 30 tons more news print daily than is being produced in their Canadian mills, which normally exceeds their requirements. The *United States Service*, a business men's weekly barometer sent out from Washington, after months of bearish advice on the paper situation, is now advising its clients to purchase and hoard paper against lessened supply and higher prices which it foresees in the near future. The prices of pulp of all grades and of other paper making materials is stiffening. Mills idle for some time are coming back into operation.

While these developments still leave the industry some distance from the peak of activity it enjoyed a year ago, they are looked upon as indicating a much more stable condition of trade in the near future and will no doubt, if they continue have a bearing when it comes to deciding upon next year's prices which may not be much before the end of November.

In regard to European paper and its effect on the American market, neither American nor Canadian producers look upon it as a

really serious factor. They recall that normally this continent is not a natural market for European paper and that even as recently as a year ago, such imports were negligible. They assert that in the paper business conditions are subject to reversal almost over night and say that it would not be surprising to see European paper disappear from the American market with the same suddenness with which it made its appearance a few months ago. A revival of paper consumption in Europe which many believe to be imminent would they say, go a long way towards bringing it about.

U.S. Paper Mill Installations.

Significant figures as to the future growth of the paper industry are made public by the American Paper and Pulp Association, which finds that only four new machines are scheduled for installation in the entire industry for 1922, as compared with the 53 machines being installed in 1921.

The record year of 1920 when such mills as the news print mills were producing at more than their registered capacity to meet the demands of publishers, was accompanied by the placing of contracts for much additional machinery. The year of 1921, however with an influx of cheap foreign paper, in the absence of tariff legislation to protect manufacture in the United States, has seen contracts for little new capacity.

Figures just compiled show a total of 53 machines scheduled for this year and only four for 1922. Of the new machines scheduled this year, eight are for news print ten each for book and board, five for wrapping six for writing seven for tissue, two each for roofing felt, glassine and specialties and one for blotting. The 1922 installations are one for book and three for board. The increase for the two years over 1920 is largest in felts and building with 125 per cent board being next with 124 per cent, and book third with 11 per cent. News print shows an increased schedule of 92 per cent, tissue of 9 per cent fine papers of 62 per cent and wrapping of 47 per cent.

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PAPER PULP ETC				
		Asco Paper Mills 8 / Part Pref	—	11/0—11/6
		Annandale & Son ord	7 1/2	8—1
		" " pref	5	81/6—82/6
		Becher & Co pref ord	15	27/0—28/0
		Burley	9d	2—2 1/2
		Garry ord Gigg	15	1 13
		Caldwell's	—	4/5—5/0
		Darwin	10	1 1/2
		Dickinson (John) ord	2 1/2	13/6—13/18
100	100	" " 5 / cum pref	5	50—50
100	100	" " 4 1/2 deb	4 1/2	60—65
		East Lancashire	10	0 21
		" " bonus	2/6	4 1/2
		Guardbridge	2/6	12—12
		Hartlepool	—	4 6—5/0
100	100	Imperial 7 1/2 / Debs	7 1/2	103 1/2—104 1/2
		Joyd (Edward) 5 1/2 / pref	5 1/2	16/3—17/3
100	100	London Paper Mills 6 / deb	6	94 1/2—95 1/2
		Marden & Sons (Charles) ord	2/0	1—1 1/2
		" " 7 1/2 cum part pref	3d	13 1/2—13/6
100	100	" " 6 / debs	6	99 1/2—100
100	100	National Paper & Pulp (1920) 8	8	74 1/2—75 1/2
		p c lat Mt Debs	1/6	21/6—22/6
		North of Ireland	5	3 1/2—3 1/2
		Oliver & Farlington 57 pref	57	50—50
		Oliver	15	32/6—33/6
		Owen (T) & Co ord	8	12/6—12 9
		" " 57 pref	10	2—3
		Peabody (A M) & Son	5	2 1/2—3 1/2
		" " 5 1/2 cum pref	5 1/2	88—93
100	100	" " 5 1/2 deb	5 1/2	15/0—17/0
		Readebottom cum pref	4 1/2	12/0—2 3
100	100	Read (A H) 5 1/2 cum pref	4 1/2	58—61 1/2
		" " 4 1/2 deb	4 1/2	2—2 1/2
		Reich Bridge	9d	16/3—17/6
		Star	5	4 1/2—5 1/2
		St Neots	57	4—5 1/2
		Spicer Bros cum pref	—	0 6—10/9
		Wall Paper Manufacturers or l	—	11/9—12/0
		" " 5 1/2 cum pl y	—	4/3—4/6
		" " del	47	55—58
100	100	" (1919) 1st deb	15	14/3—14/9
		Wiggins, Tappes ord	7	18/0—18/6
100	100	" " 7 / pref	8	103 1/2—104 1/2
		" " 8 1/2 lat Mt Debs	8	103 1/2—104 1/2
NEWSPAPER, PRINTING, &c				
		Amalgamated Press Ord	3/0	58—5 1/2
		" " 57 cum pl	5	3—4
		Associated Newspapers 7 / cum ord	7	16 1/3—17/3
		" " 57 cum pl	5	25 1/2—25 3/2
5/0	5/0	Illustrated London News Ord	18d	32—33 1/2
		" " 5 1/2 pref	5 1/2	32 1/2—33 1/2
100	100	International Linotype	50/0	47—52 1/2
100	100	Linotype 4 1/2 A deb	4 1/2	51—55
100	100	" " 4 1/2 B deb	4 1/2	52—58
		Mansell, Hunt, Catty & Co ord	9d	1 1/2—1 1/2
10/	10/	Newnes (George) ord	10	11/0—12/3
		" " 4 / cum pref	4	11/0—11/10
		Odham's Press Ord	2 1/2	3/9—4/0
		" " 8 / Cum Pref	8	8—8 1/2
10	10	Waterlow & Sons	50	14 1/2—15 1/2
10	10	" " 4 1/2 non-cum del	4 1/2	78—81
10	10	" " 4 1/2 non-cum pref	4 1/2	0 5—5 1/2
		Walden ord	1/6	1 1/2—1 1/2
		" " 4 1/2 cum pref	4 1/2	11 1/2—12 1/2

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CHEMICALS, Etc

		Brunner Mond	7 1/2	20/6—20/8
		" " 7 1/2 cum pref	7 1/2	21/3—21/9
		Carter Kallner ord	12	41/0—41/6
50 1/2	100	" " 4 1/2 deb	4 1/2	70—80
		Salt Union ord	3/0	11/0—11/9
		" " 7 1/2 non-cum pref	2/4	13/0—13/6
50 1/2	100	" " 1st mort deb	4 1/2	65—80
50 1/2	100	" " 2nd mort deb	4 1/2	53—54
10	10	Stolmer (P) & Co cum pref	5	6—6 1/2
50 1/2	100	" " deb stock	4	57—58
10	10	United Alkali	1/0	12/0—12/6
10	10	" " 7 / cum pref	7	5 1/2—5 1/2
50 1/2	100	" " mort deb	6	68—70
3/4	3/4	United Indigo & Chemical	1d	3/9—4/0
10 1/2	12 1/2	" " 57 cum pref	3 1/2	12/0—12/6

Mr Cornall writes —Paper shares are very quiet and neglected generally. Exceptionally Olives are changing hands round 5s 3d to 5s 6d. Wall paper ordinary are lower at 10s 7 1/2d, and the preference and deferred are also easier.

In the printing section few changes of importance are recorded. Mansell Hunt, Catty and Co announce a half yearly dividend at the rate of 8 per cent (same as a year ago).

Chemical shares are easier. Brunners is lower at 20s 7 1/2d, Castners 6d easier at 11s 6d and Alkalis 9d down at 12s 3d.

John H. Smythe

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Chemicals.

A better tone is prevalent for nearly all grades of chemicals, and a slight improvement in export is helping to give life to the market. AMMONIA ALKALI in good inquiry, is £8 7s 6d to £8 12s 6d per ton for home trade uses, and £9 15s to £10 per ton for export. BLEACHING POWDER, which is in slightly less demand, is £15 per ton for the home trade and £16 to £16 10s for export. CAUSTIC SODA is still in good demand especially on export account, prices are £25 to £26 per ton for 76 per cent, £24 to £25 per ton for 70 per cent, and £23 to £24 per ton for 60-62 per cent carriage paid. SALT CAKE, in rather less demand for the home trade, is £5 10s per ton, in bulk and £6 10s per ton for export. ALUM is still very quiet, English brands are quoted £16 to £17 per ton for home trade purposes, and £16 to £16 10s for export. SULPHATE OF ALUMINA is in rather poor demand at £12 10s to £15 per ton, according to grade. SULPHUR, which is in better inquiry is quoted English Flowers, £15 to £15 10s per ton. Roll £14 10s to £15 per ton, and Rock £12 to £13 per ton. Sicilian grades Flowers £13 10s per ton, Roll, £13 per ton and Rock £7 to £7 10s per ton.

Chemical Wood Pulps

Chemical wood pulps exhibit no noticeable change in demand, prices however are easier, except in the case of kraft pulp. British papermakers are placing few orders having ample supplies under contract.

Mechanical Wood Pulps

The improved position of mechanical wood pulp is maintained, demand being steady. Prices reflect the healthier tone in the market.

Esparto

Several price alterations are noticed in the esparto market this week. Spanish first quality is given as £8—£12, while first quality Oran and Bona and Philippeville is quoted £3 17s 6d to £4 5s.

Home Rags

The market for home rags which recently underwent a slight improvement, is reported to be in a fairly good condition. There have been no further alterations in prices.

Foreign Rags.

The rag market is rather dull says a report from Paris. The demand from English paper mills is always for the best grades, new or old. There is a better demand for rags from the Continent, also from USA. A better tone is noted, and some advances in prices for old first linens and cotton rags, new cuttings. Low grades of coloured rags are not so depreciated in price.

Waste Papers.

Demand for waste papers is on a limited scale, and prices are still too low to be much incentive to extensive collection. The position, however is much better than it has been, more interest being forthcoming from the mills. There has been a sharp rise in prices for waste paper in the United States.

Colours.

Business in colours remains quiet, although with the improved outlook for the paper making trade generally there is a feeling that business may shortly improve. Prices are unchanged.

Sizing

A better demand is being experienced for several grades of sizing materials prices in several instances being slightly advanced.

Baling Twine

An all round reduction of 2d per pound has been made in the price of baling twine.

Loadings, etc

Little alteration is reported so far as china clay sales are concerned. There has been a slight reduction in the price of bag packages which are now 4s 6d for single bags and 16s 6d for double. The price of superfine and seconds mineral white has dropped 5s per ton as from the 18th of this month. The remaining qualities have dropped 2s 6d per ton. There appears to be a slightly better demand for this commodity as the paper mills seem to be commencing to manufacture more.

Greaser Cellulosefabrik, CHRISTIANIA.

HIGH-GRADE EASY-BLEACHING

Sulphite Pulp

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ESPARTO.

C I F U K Ports

Spanish—First Quality	18	1	0-12	0 0
Orma				
Bona and Philippville—First Quality	17	5	4	5 0
Star and Gabes—First Quality				

HOME RAGS.

Nominal Prices

LONDON			
N White Cuttings	58/6	London Thirds	48/6
New Prints and		Country	58/6
Selections	30/6	Canvas, No 1	25/6
New Duck Cut		" No 2	21/6
tings (Govt)	53/6	" No 3	7/6
Fines (selected)	30/6	Mixed Rope	3/6
" (ordinary)	24/6	White Strings	43/6
Outshots	26/6	White Manila	28/6
London Second	4/6	Rope	24/6
Country	24/6	Cell Rope	24/6
Soft	24/6	Bagging	2/6
		Quany	4/6

BRISTOL			
Fines	28/6	Clean Canvas	28/6
Outshots	19/6	Second Canvas	17/6
Second	14/6	Light Prints	25/6
Thirds	4/6	Hemp Cell Rope	25/6
Mixed Bagging	3/6	Tarred Manila	20/6

MANCHESTER			
Fines	24/6-25/6	Blues	9/6-12/6
Outshots (best)	18/6	Bagging	2/6-5/6
" (ordinary)	15/6	" (common)	2/6
Second	10/6-12/6	W Manila Rope	14/6-16/6
Thirds	4/6-5/6	Burnt Taras	3/6-3/6
Prints	7/6-8/6	Gunny	6/6-8/6
Selected Prints	14/6-16/6		

EDINBURGH			
N Unbleached		Light Prints	
Cottons	48/6	(extra)	19/6
N Light Prints	24/6	Dark Prints	12/6
N Dark	24/6	W Manila Rope	24/6
N Blue Dungsarees	44/6	Tarred	13/6
Superfines	28/6	" Hemp	22/6
Outshots	20/6	No 1 Bagging	6/6
Best Second	21/6	No 2	4/6
Ordinary Second	17/6	Common	8/6
Thirds	14/6	Blue Cottons	19/6

GLASGOW			
Best Fines	25/6	N Lt Flannellettes	25/6
Second Fines	19/6	W Manila Ropes	28/6
Ordinary Second	14/6	Tarred Manila Rope	20/6
Common Second	9/6	Tarred Hemp Rope	17/6
Old Best Lt. Prints	19/6	No 1 Canvas	37/6
Old Clean Prints	9/6	Second Canvas	22/6
New White Shirt		New Rope Ends	8/6
Cuttings	22/6	Best Clean Bagging	3/6
New Light Prints		Common Bagging	1/6
and Selections	22/6		

FOREIGN RAGS.

Prices c.i.f. Thames

Extra Linens	60/6	Blue Linen, No 1	40/6
White Linens, No 1	51/6	Fustians	13/6
" No 2	45/6	Old Bagging (solid)	6/6
" No 3	38/6	" (common)	4/6
" No 4	28/6	Hemp, tarred in coils	40/6
" No 5	25/6	Hemp Strings	40/6
Grey Linens (strong)	30/6	New Cuttings	
" (extra)	60/6	White Linen	78/6
White Cotton, No 1	23/6	Unbleached Linen	78/6
" No 2	23/6	Gray Linen	71/6
" No 3	19/6	Extra White Cotton	70/6
" No 4	14/6	Ordinary	30/6
" No 5	12/6	Custain Cuttings	31/6
White Knitted	20/6	Stay	28/6
Munkins	20/6	Extra Light Prints	27/6
Extra Light Prints	20/6	Unbleached Cotton	20/6
Light Prints	14/6	Oxford	37/6
Dark Prints	8/6	Flannellettes	40/6
Blue Cottons, No 1	14/6	Blue Cotton	20/6

BALING TWINE

Ramp	2nd per lb	11d per lb	12d per lb
Mixed	9d per lb	9d per lb	—

WASTE PAPERS.

In Press-packed Bales f.o.b.

	per cwt
Cream Shavings	16 1/2-18 1/2
Fine Shavings	16 1/2-18 1/2
Second Shavings	16 1/2-18 1/2
Cartridge Cuttings	16 1/2-18 1/2
Best One Cuts	16 1/2-18 1/2
White Woody Shavings	16 1/2-18 1/2
Manilla and Buff Cuttings	16 1/2-18 1/2
Woody One Cut	16 1/2-18 1/2
White Wood Pulp Cuttings	16 1/2-18 1/2
Pam Shavings (Light Colours)	16 1/2-18 1/2
Pam Shavings (Dark Colours)	16 1/2-18 1/2
Ledgers	16 1/2-18 1/2
Heavy Letter	16 1/2-18 1/2
Light Letter	16 1/2-18 1/2
Quire (Best)	16 1/2-18 1/2
Quire (Woody)	16 1/2-18 1/2
Best Pamphlets	16 1/2-18 1/2
White Woody Pamphlets	16 1/2-18 1/2
Coloured Woody Pams	16 1/2-18 1/2
News (Flat)	16 1/2-18 1/2
Crushed News	16 1/2-18 1/2
Kraft Browns	16 1/2-18 1/2
Light Browns	16 1/2-18 1/2
Mixed Browns	16 1/2-18 1/2
Leatherboard Cuttings	16 1/2-18 1/2
Coloured Cards	16 1/2-18 1/2
Strawboards	16 1/2-18 1/2
Mixed Papers	16 1/2-18 1/2

COLOURS. Nominal Prices, net, delivered in Free

Package	Per Ton	Per lb
Mineral Black	£10 10 0	10 10 0
Carbon Black (English)	10 10 0	10 10 0
*Carbon Black (American)	10 10 0	10 10 0
Ochre (English and Irish)	11 10 0	11 10 0
*Ochre (Spanish), splendid		
barrels, gross weights,		
cases free	16 15 0	16 15 0
Red Oxide, 50 Z	15 0 0	15 0 0
Red Oxide (Spanish)	15 0 0	15 0 0
Vanstian Red	11 0 0	11 0 0
*Burnt Turkey Umber	10 10 0	10 10 0
*Brown Umber	10 10 0	10 10 0
Vandyke Brown Powder	10 10 0	10 10 0
Soluble Brown Crystals	10 10 0	10 10 0
Pulp	10 10 0	10 10 0
Prussian Blue Paste, 50 Z	10 10 0	10 10 0
Prussian Blue Powder	10 10 0	10 10 0
Brown Blue	10 10 0	10 10 0
Chrome (Pure)	10 10 0	10 10 0
Pure Zinc Oxide	10 10 0	10 10 0
Lithopane, 50 Z	10 10 0	10 10 0
Paste Black 50 Z	10 10 0	10 10 0

*According to Brand

ROSIN

Per cwt net ex wharf London —

	B	F	G	K	N	WG	WW
American	17/-	17/6	17/6	18/6	19/-	19/6	20/-
French				18/6	19/6	19/6	20/-

In barrels, tare 20 per cent in casks, tare 7 per cent

SIZING.

Prices are nominally as under —

	Per cwt	100lb-120lb
English Gelatine		100lb-120lb
Foreign		100lb-120lb
Fine Scotch Glue		100lb-120lb
Best Long Scotch Glue		100lb-120lb
Common Black Glue		100lb-120lb
"Town" Glue		100lb-120lb
"Bone" Glue		100lb-120lb
Foreign Glue		100lb-120lb
Bone Glue		100lb-120lb
Gelatine Glue		100lb-120lb
Picher Waste		100lb-120lb
Star Hides (Shavings, No 2)		100lb-120lb
Common Hides		100lb-120lb
Tanners' Wet Piles		100lb-120lb

STARCH.

Delivered

	Per cwt	£10 10 0
Malce—Crisp		£10 10 0
Power		£10 10 0
Special (1 cwt bags)		£10 10 0
Farina—Special		£10 10 0
Prima		£10 10 0
Rice—Granulated (in bags)		£10 10 0
Flour		£10 10 0
Dextrine—Superior		£10 10 0
Malce		£10 10 0

LOADINGS, etc.

China Clay in bulk, f.o.b. Cornwall 35s to 75s (highest grade) per ton. The extra charges (including filling) per ton for bags and casks are: Single bags, 9s 6d; double bags, 18s 6d; half ton casks, 9s 6d; quarter ton casks, 28s 6d; in casks, with extra iron hoops, 3s per ton more.

Tale (Norwegian) 48 1/2s 6d to 41s 12s 10d per ton according to quality c.i.f. Hull or Grimsby.

French Chalk W.E. and W.F.O. and other brands, 47 1/2s 6d to 41s 12s 6d per ton according to quality delivered in most papermaking towns, also f.o.b. Glasgow, Belfast, Manchester and London at same price.

Italian Chalk, main brands—f.o.b. Manchester, Liverpool, Belfast or London—I.W.A. 'Portland' and 'Swan' marks, 41s 6d to 41s 10s 6d per ton of 25 bags.

Superfine Hardening delivered, Mills, 56s per ton and up words.

Patent Hardening (5 ton lots), f.o.b. Lancs 48 17s 6d.

Saxite, minimum alumina 40%, 76s f.o.b.

Sulphate of Barytes, Crude No. 1, 49 15s 6d No. 2, 48 10s 6d No. 3, 46 10s 6d per ton, net, carriage paid. If ground 4s 10s 6d per ton extra.

Mineral White (also known as Terra Alba, and Sulphate Lime), per ton f.o.b. at makers' works, less 24% — 87s—74s.

Superfine 1st and 2nd }
Fine handpicked white, finely ground } 41s—40s

Fine, second quality
Pottery, best quality
Pottery, No. 1 quality

Gypsum (Mineral), makers' works, 24% —

No. 1	21s	Seconds	20s
Pottery	21s	Thirds	19s
Ball Seconds	21s		

Terra Alba and Gypsum delivered any Lancashire or Yorkshire station about 21s per ton extra, except Man. Chester which is only 15s per ton extra. Delivered London stations about 24s 6d per ton extra.

Papermakers' Plaster, 42s and upwards per ton, less 24% carriage paid.

Magnesite (containing 94-98% Carbonate of Magnesia), raw ground, 41s 10s 6d calcined, 41s 10s 6d.

Magnesite (in lump) 47s 6d per ton.

Chloride of Zinc, 40s per ton.

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4s 10s

Map of Poole and Bournemouth showing the location of the mines and the pipe line. The map is titled "POOLE AND BOURNEMOUTH" at the top and bottom. The pipe line is labeled "PIPE LINE 9 MILES LONG". The mines are labeled: PARSONS PARK, GUN HEATH MINE, NEWQUAY, GOTHERS MINE, SOUTH CAUDLEBOWN MINE, WHEEL MINE, REMFRY MINE, SOUTH COOMYAN MINE, WHEEL FREDERICK MINE, ST JUST, BALLESWIDEN MINE, LESWIDEN MINE, PALMOUTH, and FINEANCE.

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THURSTON PRESS, LTD—Capital £300 in 5940 ordinary and 60 deferred shares of 1s each, publishers, printers, engravers, die-sinkers, stationers and booksellers etc Private company Directors J T Thrower and C E Lee Registered office, 38, Poland-street, Oxford street, W 1

W S MUIR AND Co, LTD—Capital £10,000 in £1 shares, to acquire the business carried on at 83, Upper Thames street, E C, as "W S Muir and Co" and to adopt two agreements with W S Muir, J M Hannah and E Stepan, and to carry on the business of paper merchants and makers, agents, shippers, and contractors, paper mill representatives, envelope paper bag and box makers dealers in fine art and general fancy goods, etc Private company Subscribers H F Hellings and E T Remfry Registered office, 83, Upper Thames street, E C

THROSTLE Co, LTD—Capital £2,000 in £1 shares, paper bag manufacturers, manufacturing stationers and dealers in paper and stationery etc, and to adopt an agreement with C H Irons Private company First directors C H Irons and Mrs C Irons Registered office, 213, Hoe street, Walthamstow

JAMES LANGLEY AND Co, LTD—Capital £5,000, in £1 shares (2,000 pref), buyers, sellers, manufacturers, importers and exporters of or dealers in toys games, requisites for games, sweets confectionery, tins, canisters cardboard and other boxes toilet requisites stationery, books, newspapers periodicals, magazines, playing, visiting, festive complementary and fancy cards, pictures and picture frames, picture post cards, fancy goods, etc, and to adopt an agreement with J Langley Private company First directors J Langley, Mrs Beryl M E Edwards, Miss E P E Langley Miss E M Langley and F Moore Registered office 14, Prince of Wales road, Norwich

A Moscow message states that by agreement with the Soviet Government a private industrial union is to be established in Moscow, which will take control of various industrial concerns, including Bogorodaki's paper mills Trotsky and General Lebedeff will be on the board of directors.

Mortgages and Charges.

MACRAU, LTD (Printers)—Mortgage dated October 3rd, 1921, to secure £250, charged on part of 17, Alfred place, London Holders C R Steele and J B Baker, 6 Finsbury-square, E C

STANDARD CATALOGUE Co, LTD—Issue on September 22nd, 1920, of £5,000 "B S E" and £2,000 "E S I" debentures, parts of a series already registered

VICTORIA HOUSE PRINTING Co, LTD—Debenture dated September 20th, 1921, to secure £13,000, charged on freehold and leasehold property, plant, machinery, etc, at Tudor House, Tudor street, E C, and elsewhere, and the company's undertaking and property, present and future, including uncalled capital Holders Co operative Wholesale Society

J WHITAKER AND SONS, LTD (Printers, etc.)—Mortgage and supplemental charge under Land Transfer Act, and debenture, dated September 23rd, 1921, to secure £7,000 charged on 12, Warwick lane, E C and the company's undertaking and property present and future including uncalled capital Holders Spicer Brothers Ltd

CAXTON PUBLISHING Co, LTD (London)—Satisfaction to the extent of £700 on August 2nd and £900 on September 22nd, 1921, of debentures dated May 3rd, 1910, securing £40,000

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HOGG AND KNIGHT, LTD (Printers, London)—Satisfaction to the extent of £100 on September 24th, of debentures dated January 28th, 1921

F HILL SELLAR, LTD (Printers, stationers, etc.)—Mortgage debenture dated September 29th, 1921, to secure £136 Charged on company's undertaking and property, present and future Holder J Kirkby, 11, Westmoreland street Pimlico S W

CHARLES ODELL LTD (Newspaper proprietors, etc, London)—Particulars of £3,000 debentures authorised September 19th, 1921, whole amount issued, charged on the company's undertaking and property, present and future, including uncalled capital

JAPAN'S PAPER TRADE—At a meeting of the Japan Paper Association it was decided to maintain the reduction of output until October, when the trade should enter into the season for demand It was further decided that the agreement as to prices should be maintained for the time being There has been little change in the price of foreign-style paper News print is now quoted at 25 sen to 26 sen, imitation paper at 27 sen, and glazed paper at 15 sen to 16 sen From China, only small orders are received No large exports have been made to India, in which Swedish goods apparently have a monopoly

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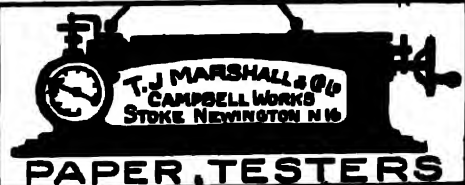
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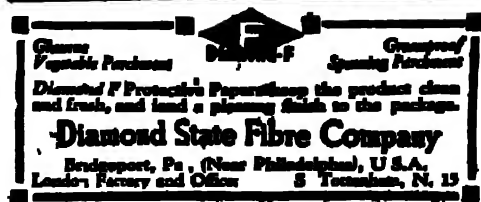
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PAPER TESTERS

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London Factory and Office 5 Tottenham, N. 15

Dutch Strawboards.

Production Said to be Unprofitable

The Dutch strawboard industry is reported to be in a serious condition. Production is unprofitable to the manufacturers because the price obtainable for the product is considerably less than the cost of production, which high cost is attributed chiefly to the purchase of large supplies of straw when its price was several times greater than that for which it can now be bought.

These are the opening sentences in a report which the U.S. Consul at Amsterdam (Mr. F. W. Mahin) forwards and he proceeds: The factories now have large stocks of strawboard on hand and have practically filled all orders for their products. On the whole it is considered more profitable to close the factories than to operate them at the present cost charges and selling prices and a general shut-down is expected soon.

The importance of the industry is shown by the fact that there are about twenty strawboard factories in this district which employ about 2,000 workers with a daily output of approximately 700 tons. These factories are in the Province of Groningen where they were established about fifty years ago because of the abundant supply of straw to be had in that agricultural district.

The total quantity of strawboard, including cartons exported to all countries in 1920 was about 200,000 tons. The total quantity during the first seven months of 1921 has been about 150,000 tons. More than three-fourths of the export goes to Great Britain, the rest being distributed among countries in various parts of the world.

Re J. W. MILDWARD (trading as J. W. Mildward and Co.) printing contractor 368 Strand W.C. Mr. Registrar Francke at the London Bankruptcy Court on October 14th approved a scheme submitted by this debtor providing for the release of claim amounting to £664 and the payment of a composition of 6s. in the £ on the remaining debts. Mr. F. I. Garton, official receiver, reported that the debtor failed in July 1920, with ranking liabilities £1,556 and that a sum of £270 had been paid into Court, sufficient to provide for the composition on the balance of £880 and the costs of the proceedings. The assets were returned at £89 consequently the scheme was to the benefit of the creditors to participate thereunder. The debtor commenced business on November 11, 1920 and he attributed his failure to liability on accommodation bills, of which he was the drawer and in respect of which he received no consideration, but had paid about £300 to the holders, to his having to pay out for paper, and to heavy household and personal expenses in consequence of his son's illness. His Honour approved the scheme and rescinded the receiving order.

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A patent covering asbestos paper has been granted to Turner Bros Asbestos Co Ltd and J. Fox Rochdale, Lancashire. This asbestos paper suitable for insulating material or tape for electrical purposes is reinforced with Japanese tissue paper secured thereto by starch gum varnish shellac size or the like. A layer of either paper may be faced on one or both sides with the other and advantage is taken of the strength of the Japanese tissue paper in the direction of fibres which may be crossed where two thick nesses are used.

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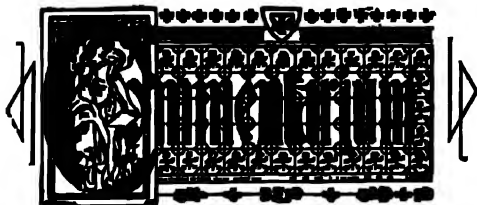
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FORTY-SECOND YEAR

VOLUME 78
NUMBER 19

LONDON NOVEMBER 4, 1921.

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There is no notable progress to be recorded as far as paper trading is concerned but on the other hand there is at least the satisfaction of knowing that the recent improvement has been steadily maintained on the whole. Other trades and industries are no better off than our own although in nearly every case the outlook is said to be good. Unemployment figures are as depressing as ever, despite the recent turn. The big thing that matters is the chaotic condition of states and currencies. Until the signs point to settlement and stability industry and trade in this country cannot improve as they should do. This week the engineers accepted the wage reduction, and perhaps to a slight extent this will help matters in that sphere, but it will not bring back the contracts which have been broken, nor will it ensure any orders for South American mill equipment coming our way against German competition.

THE imposition of tariffs and the development of State subsidy and interference with trade will not help to put the international relations on a firm basis, and in this connection the corresponding action on foreign imports in last week's *World's Paper Trade Review* is entirely in line with the view that the protection of the trade. The British effort to take care

respondence did not carry us very far, against them it would be perfectly easy to show that the monthly average of import paper and board for 1913 was 54,000 tons the first nine months of this year 25,000 and for the corresponding months of last 60,000 tons. But, after all fundamental far more important than figures and we relieve our minds of bias and personal interest we can never hope to either adjust or remedy the real causes of our present trouble.

From time to time we have urged the importance of combined action in regard to question of rating of machinery. At the present time the various local authorities up and down the country are busy squeezing maximum amount of revenue from a available source. The whole subject of rate assessments is complicated beyond grasp of the ordinary business man, and in fact almost too complex for even the trained legal mind, if we are to go by the varied opinion expressed in past judgments. To manufacturer who uses large and expensive machinery there is always the danger of a zealous surveyors taking advantage of defects of the law which permit them to every form of property. The Machinery Users Association exists for the purpose of safeguarding the interests of its members, especially includes as one of its chief functions the protection of machinery against over-assessment. Every ounce of industrial strength should be thrown into Association for the purpose of ensuring ultimate successful passage through Parliament of the Bill to reform the method of assessment of industrial property.

GERMAN, Belgian, Dutch and now French printing houses are attempting to take the fullest advantage of their economic condition by canvassing our users of printed matter for their orders. Apart from postal economies and facilities which have been widely advertised since our own new regulations came in the Continental countries offer as an inducement their cheaper costs of production and the gain on rate of exchange. Some very fine collections of printed samples have been sent over and a number of English agents have been appointed to canvass the larger users. Already a large amount of mail order business has gone over the North Sea and at least half a dozen of the biggest manufacturers of foodstuffs and specialties have had large printing contracts executed abroad. Quite recently we had also the example of a publisher going to Germany for books to be produced at a saleable price. It would be interesting to know exactly how many different industries and trades are affected by the loss of this business. Quite definitely we know that wood pulp agents, the chemical trades, papermills and merchants, printers, bookbinders, artists and process engravers are so much the poorer for every printing order that goes out of the country. That the Post Office should suffer the loss of revenue by reason of the lack of foresight and common business ability of its high officials is a necessary precursor to the return of sanity and the restoration of a popular service. Unfortunately, it is the business community that must pay for the lessons.

* * *

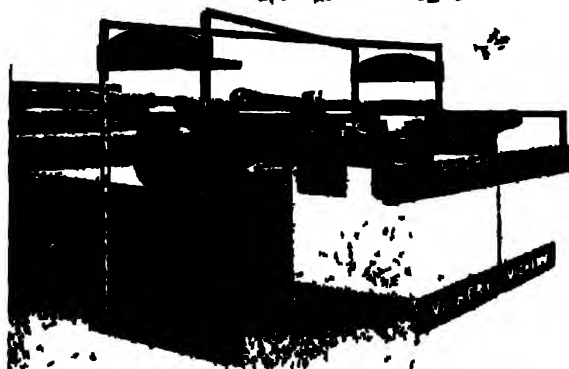
THE recent comments of a correspondent

of the *World's Paper Trade Review* in which thanks were offered for all the blessings of a Sunday rest from postal facility, and social convenience, along with business efficiency was forgotten were beside the mark. The facts are that postmen themselves do not appreciate being deprived of the opportunity to make a few extra shillings on very light work and those who do need not volunteer for the extra service. Monday mornings delivery is a postal fact in nearly every business house. In many places letters posted late on Friday night do not reach their destination until the later deliveries on Monday. Then there is a considerable amount of work of one kind or another which simply cannot be performed except Saturday or Sunday (Press correspondence for example) and which cannot be transmitted through the post except at an exorbitant charge. Lastly if the Sunday post is stopped for the convenience of postmen why run trains or trams?

* * *

Mill quotations are keeping very steady at a low level and competition for existing orders is exceptionally keen. Common printings are down to 3½d, second printings 4d to 4½d, fine printings 4d to 5d, common writings 4d, second quality 4½d and espantos as low as 5½d per lb. English mills are making common bunks at 4½d and 5d per lb, imitation parchment at 4½d, envelope manilla at £36 per ton and kraft wrapping at £27 per ton.

PAPERMAKING machinery was imported into Japan during the six months ended June 1921, to the value of 122,000 yen (yen = 25 0½d).



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Technical Section of The Papermakers' Association.

Mr. I. W. Farrow, F.C.A., Outlines His System of "Fine Paper" Costing before the London Division.

The Technical Section of the Papermakers' Association opened the winter session on Friday night at the Connaught rooms the particular feature of the evening being a paper on Fine Paper Costing by Mr. I. W. Farrow, F.C.A. a director of Messrs Wiggins Teape and Co (1919) Ltd.

As usual, the evening was ushered in with a little repast. Mr. H. Goldstraw, chairman of the London Division presided.

Mr. Farrow's Address.

Mr. Farrow's address which was accompanied by a number of specimen cost sheets is as follows:

The question of cost accounts presents many difficulties but however complicated the details of any particular business may be the basic principles on which the cost accounts are prepared are similar. Before dealing with paper costing, I propose to make a few remarks generally on the subject of costing and am dividing my remarks into four parts as follows: 1. What is cost system? 2. What purposes do costs serve? 3. Some fallacies in costing. 4. Fine paper costing.

What is a Cost System?

Before defining what a cost system is it is well to state what are the three main elements of costing for to a proper appreciation of costing it is necessary that there should be no doubt as to what these three heads cover.

They are: 1. Wages. 2. Materials. 3. On cost or general expenses.

The term wages applies to the earnings of those workers engaged on production only and which can be definitely charged to a particular process or job and in a similar manner the term materials covers only those materials which enter directly into the process or job. The term 'oncost' applies to every other form of expense not falling to be charged under these two heads and is usually further subdivided into direct oncost and indirect oncost. Direct oncost may be defined as those overhead expenses which vary with output e.g. power, repairs, plant maintenance etc. while indirect or general oncost may be said to include that expenditure which is not materially affected by fluctuation in output e.g. rent rates, salaries etc.

A system of costing therefore may be said to comprise three salient features:

(1) The method of recording the hours worked on any particular process or job so that the wages paid may be properly allocated and charged.

(2) The method of recording the materials used on any particular process or job so that the value of those materials may be correctly allocated and charged.

(3) The method of grouping expenditure of every other description not falling under the two previous heads and of distributing such expenditure over the respective processes and jobs.

What Purposes do Costs Serve?

It is an astounding fact that a great number of business men in this country are content to work their businesses from one balance sheet date to another in ignorance in the interim of the result of their trading. Generally speaking so long as the profits exceed the losses and a suitable balance on the right side is shown at the end of the year, the manner in which this result has been attained is left to conjecture the probability being that a few good lines are producing large profits but others are involving losses.

It very often becomes necessary to produce certain lines which it is impossible to manufacture at a profit in order that other more paying lines may be put on the market, but it is essential to know what loss is being incurred on the one part and the profit that is being made on the other if the manufacturer is to have the assurance that a satisfactory balance will be disclosed at the end of the year's working.

It may therefore, be said that the objects of the cost records are—

1. To determine the total cost of production to enable us (a) to compare such cost of production with selling values (b) to ascertain the results of manufacture at short intervals.

2. To ascertain how such production cost is made up for the following purposes—

(a) To detect waste in the usage of materials by comparing the details of the consumptions shown in cost accounts with the theoretical usages and with the results disclosed in previous cost accounts.

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(b) To prepare estimates for quoting
(c) To check such estimates by comparison with the actual results afterwards disclosed in the cost accounts

(d) To indicate where overhead charges can be reduced

(e) To explain the reasons for variations in the cost of production of the same product at at one factory, compared with another, or on one occasion as compared with another

Efficient factory control can only be maintained if the management is provided with proper costing data and economy in the use of materials and labour can only be secured by constant analysis of the cost of production. It must not be imagined however that costing is a panacea for all the ills of a badly conducted factory. Costs cannot make an unsuccessful concern successful, unless they are properly understood and acted upon. Accurate costing however, does enable the management to determine the extent to which the elements comprising the costs are excessive and to take steps to rectify evils which with out proper costs, would not be apparent.

Estimating without accurate costing as a guide is worse than useless. It is highly dangerous for the days when tenders could be made on haphazard estimates are past. Proper estimates can only be founded on accurate cost data and any business ignoring this cannot hope to cope with the strenuous competition which is before this country in the next few years.

Some Fallacies in Costing

Of what use to a builder would be the plans of an architect which were approximate only, or how could the mariner hope to negotiate rocky seas if his charts were defective? The management of a business can look for no more success if cost records are inaccurate or are only approximate. The successful installation of a costing system necessitates the closest co-operation between the accounting and technical sides of the business, for not only must the costs be strictly in agreement with the financial records, but they must be built upon accurate data as to the movements of labour and materials in the factory which is the lifeblood of accurate costing.

One of the main inaccuracies which occur in costing arises in the charging of raw ma-

terials for in the working out of many costs systems, no attempt is made to link up the costing results with the actual expenditure disclosed by the financial books. Over a given period the usages of raw materials as disclosed by the consumption records, will usually fall short of that disclosed by the financial books by reason of chemical and physical causes, but in a well designed cost system account will be taken of these losses which can only be ascertained by a constant agreement of the cost and financial books.

Materials should bear direct expenses incurred in connection therewith, for it is distinctly wrong to charge carriage and handling charges on an arbitrary basis. Some materials are purchased at a delivered price others free on rail or steamer, and still others delivered at a certain place and in order to obtain the true and comparative cost carriage and handling charges should be charged to the respective materials, also it will be necessary to charge up the cost of domestic transport on a tonnage basis. In a similar manner all deductions for allowances, discounts etc., should be credited to the cost of materials.

Another frequent source of error arises in the treatment of carriage outwards. It is incorrect to treat this as an expense of production, it should be looked upon in relation to the selling price, for if this expense be dealt with as an element of cost the manufacturer will be misled in building up estimates for quotation purposes. The same remarks apply to special discounts allowed to whole sale merchants, export freights and expenses all of which expenses must be dealt with in relation to selling prices and must not be treated as elements of production cost.

A common fallacy in costing lies in charging to the cost of production the cost of financing the business such as interest on loans and debentures bank interest etc. All these items are appropriations of profit and not a charge against production cost as their incidence will depend on the method adopted of financing the business. When however preparing comparative costs of factory with it is fundamentally sound, but for that purpose only, to charge interest on the whole of the capital employed so that a proper com-

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parison can be obtained. The charging of interest on capital as an element of production cost in the ordinary way is to be deprecated unless it be by way of an entirely separate item, as such interest should be covered by the profit obtained from trading. In addition to this, in calculating the cost values of work in progress and stocks in hand, interest on capital must not be included as this would obviously be the same thing as taking credit for profit which might never be earned.

Lastly, if I may again emphasise the point inaccurate costings are most dangerous and may lead to the undercutting of prices in the one direction and to the refusal of orders in the other and in both cases serious loss may be occasioned.

"Fine Paper" Costing

The costing of individual makes of paper must to a certain extent be based on estimates, and in view of this it is important that such estimates should be proved in totis against actual expenditure over periods. It therefore becomes necessary to have accurate monthly cost accounts for the whole production in bulk which costs must be in complete agreement with the financial books. These monthly costs will as regards materials, wages and stores be based on the actual expenditure for the period after adjusting stocks etc. and as regards general expenses on estimates which may be based on results shown in previous accounting periods.

For the purpose of these monthly cost accounts it will be necessary to show separate cost sheets for each process in the manufacture carrying forward at cost, the products of each process to the next. The chief process may be classified as follows:

1. Power showing the cost of the whole of the steam, electrical and other power worked out in cost per lb. of steam or unit of electricity if this is known and the total cost allocated to the manufacturing processes following.

2. Rag fibre preparation divided into three sub-processes sorting, boiling and breaking, these processes using a proportion of the power from the power process and producing prepared rag fibre.

3. Paper machining including beating which process will commence with the prepared rag fibre at manufactured cost and the wood fibre, furnish and other materials at purchase cost and producing reels of uncut paper.

4. Paper finishing including the cost of super calendering, guillotining, plate glazing, cutting, sorting, counting and where paper is sold by the reel reeling.

The raw materials consumed arrived at by adjusting on to the goods received the stocks at the beginning and end of the month, can all be allocated to the particular processes concerned. The wages can be allocated by means of an analysis of the wages book, the power is allocated in that process account and the direct oncost including machine wires, felts, grease etc. can be allocated by means of a stores system although in a small mill this may be based very largely on estimates. Indirect oncost (general mill expenses) cannot usually be directly allocated but it is suggested that the estimated monthly total of these expenses be split over the various processes on a percentage basis.

For the purpose of these monthly cost accounts waste papers produced on the machine and in the sale should be credited to those processes and the consumption, after adjusting stocks charged to the paper machining process. This is most important as quite large differences will occur in the cost of individual makes of paper some of which may use a large quantity of waste paper and produce very little and some the contrary.

The monthly cost sheets will be built up process by process the work in progress being dealt with through process stock accounts where they will be valued at the average cost for the month. In the case of intermediate rag stocks these will be valued in the various rag stock accounts in which the costs of the different grades will be shown separately, the expenses in each process being apportioned and added to the cost of each particular grade.

For the purpose of costing the individual makes of paper correct and detailed technical records particularly those relating to rags are a necessity. The preparation of the records relating to the movement of rags is the most difficult problem to be faced.

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Rags are purchased sorted more or less into grades, but it is necessary to re sort them accurately so that although the price for the unsorted rags is known the cost prices of the graded rags are not obvious. In addition, even if every purchase of rags is traced through to the time it is sorted and then all the graded rags produced from each consignment are priced at the average cost of that purchase a satisfactory result is not obtained for, when considering a price for a consignment of rags, a buyer is really only paying an average price for rags of different qualities, knowing that although the consignment will contain bad rags it will also contain some good ones to balance.

After considerable trials, the method found to be the most satisfactory has been to arrive each week at the total cost of all rags sorted and to apportion the cost of those rags over the total weights of each grade produced during that week in such a proportion that the relative costs per ton of each grade are in the proportion of an agreed and fixed ratio of relative values based on market prices. By adding together the four or five weeks as the case may be monthly totals can be obtained so that in the monthly cost sheets the rags can be shown in terms of sorted in stead of purchased grades. The total values of course will be the same although the weights will be less by the rag house losses.

To carry through this system the following records are necessary:-

1 A RAG STOCK BOOK in which all rags received are debited and checked off with the purchases book to ascertain stocks in transit and all rags sorted in the rag house are credited from a rag house issues book the weekly stocks being agreed with actual stock takings. This book will give the total weight and cost of all rags sorted during each week.

2 A RAG BOILING ISSUES BOOK showing the weights of every boiling and the weekly totals for each grade.

3 SORTED RAGS VALUATION SHEETS to arrive at the weights of each grade sorted and to show the following information:

Total weight and cost of all rags sorted.

Total weight of each grade of rags produced from these rags.

By calculation the proportion of the cost of the rags attributable to each grade produced,

calculated on a fixed ratio of the relative values of the various grades of rags produced based on market prices.

4 RAG HOUSE STOCK SHEET showing a line for each grade of rags and columns for:

a Stocks of sorted but unboiled rags at the beginning of the month.

b Add rags sorted during the month the cost obtained by adding together the results disclosed by the "sorted rags valuation sheets" for the four or five weeks plus the cost of sorting as per the rag sorting process. The total of the 'rag sorted' column will then agree with the total of the 'rag sorting process' account.

c Total.

d Less stocks of sorted but unboiled rags at the end of the month valued at the cost per ton of the rags in the rags sorted column.

e Balance being graded rags boiled during the month transferred to the rag boiling process.

From now on the rags are wet and therefore cannot be weighed and the statistics of the weights at various stages have to be based on estimates but should always be referred to in terms of dry weights into the boilers.

5 BOILED RAG STOCK SHEET showing a line for each grade of rags and column for:

a Estimated stocks of boiled rags at beginning of month brought forward from the previous month's stock sheet.

b Add rags boiled transferred from the rag boiling process and bring the figures shown in the rags boiled column of the previous stock sheet plus the cost of boiling from the rag boiling process.

(c) Total.

(d) Less estimated stocks at the end of the month valued at cost.

(e) Balance being rags used in the breakers differentiated as between the various grades.

6 HALF STUFF STOCK SHEET in a similar form to keep records of the bleach house stocks still differentiating as between each grade of rags and showing the weights on a basis of the dry weights emptied into the boilers, the issues into the beaters being thus tracked right through still sorted in grades and giving the total weights and values of all grades of rags used in the manufacture of paper. In the case of mills where the rag

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libre is passed straight from the breakers to the heaters this form can be omitted as there will be no stocks to adjust.

7 Various foremen's records as to the numbers of breakers emptied and as to stocks of different grades of rags at the different stages to suit the local conditions of the mill.

8 Furnish records of materials used on each run of paper and based on shift returns made out by foremen.

These furnish records will show amongst other things the numbers of boxes of each grade of rags used in each run of paper, and by totalling the numbers of boxes of each grade used during the week and comparing these total numbers with the total weights shown on the half stuff stock sheets, it will be possible to ascertain the average weights of rag per box for each grade which figures should remain fairly constant any big fluctuations being due to traceable mistakes.

When a cost sheet is prepared for any particular run of paper it will be possible to take the numbers of boxes of each grade of rags shown as used by the furnish records and to calculate these out at the average weights per box for each grade as arrived at above to obtain the net dry weight of each rag consumed. These weights can be put at the average costs per ton disclosed in the consumption column of the half stuff stock sheets to arrive at the total cost of the rags used on that run of paper.

It will be seen that these records commence with the actual cost values of the rags purchased and trace such rags right through to their consumption in the heaters so that were the cost of the rags used on every separate run of paper for a period to be worked out the total of the figures obtained would agree with the total charge to the monthly cost accounts themselves in agreement with the financial books. Thus we can be sure that our individual cost accounts are provable with financial results.

Before leaving the question of rags I would like to mention one form of statistics which has proved most useful. The rag foreman sends to the office a slip for each consignment of rags showing the weights of various grades of rags sorted from the parcel and the loss in weight in dirt mulch etc. In the office the

amount paid for the rags is inserted and the weights for each sorted grade of rags produced is valued at the market price for that grade and totalled to arrive at the total value of the consignment. The amount by which this total value exceeds or falls below the amount paid is calculated as a percentage on the cost and furnishes valuable information as to the relative qualities of rags supplied by different merchants. These figures are averaged for each month for each supplier and the results are entered on cards and sorted in order of value. Thus if Jones rags show a 6 per cent surplus and Smith's rags a 3 per cent deficit Jones rags are prima facie the best to buy.

As regards the chemicals wages and expenses in treating the rags the monthly cost sheets will show the cost of these expenses per ton of rag fibre dealing as always with dry weights into the boilers. To provide for these charges in a cost sheet for a particular run of paper an amount equal to the tonnage of rags used multiplied by the cost of the charges per ton of rags must be added. This of course assumes the cost of treatment of all grades of rags to be equal which although not absolutely correct is probably as near an approximation to the actual facts as is possible.

For wood resin starch clay etc. the same difficulty is not encountered as with rags. With a little care and organisation quite accurate consumption records can be obtained from the shift foremen which will agree within a few per cent of the actual consumption disclosed by the monthly cost accounts. For an experience the slight error can be allowed for.

For these materials the following records are necessary:

1. AN INWARDS Book showing details of all goods received and checked with the purchases book to ascertain stocks in transit.

2. USAGE SHEETS written up by the shift foremen and showing the consumptions on individual makes of paper.

3. A LOSS LIST Stock Book written up from the inwards book and usage sheets and proved weekly against the results of the stock takings.

As the inwards book is checked and agreed with the purchases book and the stock book

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is agreed with stock taking results, the stock book usages will agree with the figures disclosed in the monthly cost sheets. The furnish records can therefore be compared in total with the stock book usages to find out average differences if any to provide the data for obtaining the actual consumptions on any run of paper.

All machine waste, other than waterleaf, which is used again on the same paper and all sale waste should be weighed and by actual stock taking it will be possible to arrive at periodical consumptions which can be compared with the numbers of boxes shown as used by the furnish records to provide average weights per box of paper. The credits to various runs of paper for waste papers produced will have to be very largely a matter of estimate, based on experiments as of course the waste on any particular grade is not constant and is dependent on a variety of circumstances. As regards machine waste, this could be worked out on a basis of ratio percentages for various thicknesses, but the sale losses can be taken as the differences between the reel weights at the calenders and the saleable weights less wrappers and after adjusting over and under weights. The price at which waste papers are credited and charged will naturally be fixed at the value they are considered to be worth compared with rags and wood.

In the monthly cost sheets the machining account will contain the wages and expenses on that process and in addition to showing the costs per ton of paper made should also show the costs per hour run exclusive of stoppages as this is a valuable figure for comparison and shows up very clearly the effect of fluctuations of output on expenses. In the costing of an individual make of paper these charges will be calculated for that make by taking the hours run by the machine on the particular paper at the average rate for the month disclosed in the monthly cost sheet.

Lastly we come to the paper finishing account which containing so many operations is one of the most difficult to cost at all accurately.

The best method in my opinion is to work out by experiment the relative costs per hour including labour of each operation except counting and sorting where these are paid piece rates and to standardise these. The

total running costs of the paper finishing account each month can then be apportioned over the various operations in such a way that the costs per hour are in the proportion of the relative standardised costs just mentioned, and the results shown on the monthly cost sheet in terms of so much per hour for each operation. Thus for each month we have a series of cost rates for each operation and in preparing cost sheets for an individual make the hours spent in each operation can be multiplied by the operation cost to arrive at the expenses chargeable for that operation and the sorting and counting expenses can be ascertained by the piece rates paid.

From the process cost accounts for each month can be prepared ultimate cost accounts showing the cost per ton of saleable paper detailed in the terms of original cost, i.e. materials, labour and oncost. This will necessitate splitting the values of the process stocks into their constituent costs and adjusting the same over the particular items of process cost thereby obtaining the items of cost relative to the saleable paper produced for the month in question.

The discussion on Mr. Larrow's paper is reported on page 1646.

News-Print in Australia.

The total importation of news print into Australia for the five years ended June 30th 1910 was of the value of £ 909 107 for the five years to June 1915 £ 1,974 581 for the five years to June 1920 £ 7 100 316 and for the year ended June 30th 1921 £ 3 460 750.

In the 1910 period Great Britain supplied paper valued at £ 1 035 742 Canada £ 48 809 U.S.A. £ 670 492 and Scandinavia £ 252 558. In the 1915 period the figures were Great Britain £ 1 531 811 Canada £ 645 821 U.S.A. £ 607 286 and Scandinavia £ 554 704.

In the 1920 period Great Britain supplied paper valued at £ 1 052 597 Canada £ 1 046 983, U.S.A. £ 1 756 056, Scandinavia £ 2 152 210.

The totals for the year ending June last were Great Britain £ 695 890 Canada £ 977 694, U.S.A. £ 265 716, and Scandinavia £ 1 317 106.

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American Paper Trade.

Effects of European Competition

An interesting article appears in the Pulp and Paper Section of the *Financial Post* (Toronto) from the pen of Mr. A. I. Cadman on Canadian and United States paper imports and exports and the competition which has been felt from European countries during 1921. During 1919 and the early part of 1920 the supply of news print was not sufficient to meet the demand. Then supply began to catch up to the demand and found itself in the throes of a depression, which was affecting every branch of industry. The causes of the decline in production in Canada are stated by Mr. Cadman to be strikes, lack of tonnage and the increased imports of European paper into the United States. Figures for 1921 show that production in the United States decreased 179,782 tons or 20 per cent. Canadian production decreased 75,993 tons or approximately 15 per cent, while the total production of the two countries decreased 255,775 tons or 18 per cent compared with the first seven months of 1920.

In addition to the lessened demand for news print occasioned by the drop in advertising the stocks held by the larger publishers in the United States were an important factor in the situation. These stocks according to the Federal Trade Commissioner, amounted on January 1st 1921 to 237,000 tons but on August 1st were only 194,000 tons, a decline of 43,000 tons.

Mr. Cadman points out another fact which has contributed to lessen Canadian and American exports this year. In 1919 and 1920 these two countries were supplying the world's markets. Exports from Canada alone in 1920 to countries other than the United States amounted to 91,915 tons as against 85,752 tons in 1919 but for the first seven months of this year the figures drop to 30,789 tons, compared with a total export of 45,151 tons in the corresponding period of 1920. Export from the United States had fallen away even to a greater extent.

These declines are attributed to the recovery from the effects of the war which was being felt by the Scandinavian countries and to which their depreciated currencies were materially helping them.

In 1919 Canada and Newfoundland supplied all the imports of news print into the United States with the exception of 36 tons. In 1920 four European countries alone supplied nearly 50,000 tons while for the first seven months of this year these countries sent 62,136 tons. The total import of news print into the United States for the first seven months of 1920 amounted to 10,943 tons, as against 64,995 tons for the seven months of this year. Of this latter amount Germany was the largest supplier with 21,123 tons or 32 per cent of the whole.

After dealing with the investigation that is going on to ascertain if there is any violation of the U.S. Anti Dumping Laws in connection with these imports Mr. Cadman mentions that European competition is being felt in Australia and other countries. He writes of the serious detriment Canadian manufacturers have to contend with in the new tariff imposing £3 per ton on news print from all countries except Great Britain. In 1920 Canada supplied the Australian market with 36,800 tons but for the first seven months of this year has only sent 12,130 tons. The writer concludes by stating that we are now getting on to a sounder basis from which solid progress could be made and a restoration of reasonable conditions is only a matter of time.

More cheerful reports are forthcoming concerning the Norwegian paper market. Although orders are being placed business is limited owing to the high cost of production as reflected in paper prices. The strike having now come to an end it will still take some time before everything will be running smoothly once more.

Mr. J. C. Sproul, writing in the *Daily News* says that the difficulties which beset the professional writer in present day Russia have no parallel elsewhere. Regarding writing paper he says that the great scarcity of the material limits the number of manuscripts

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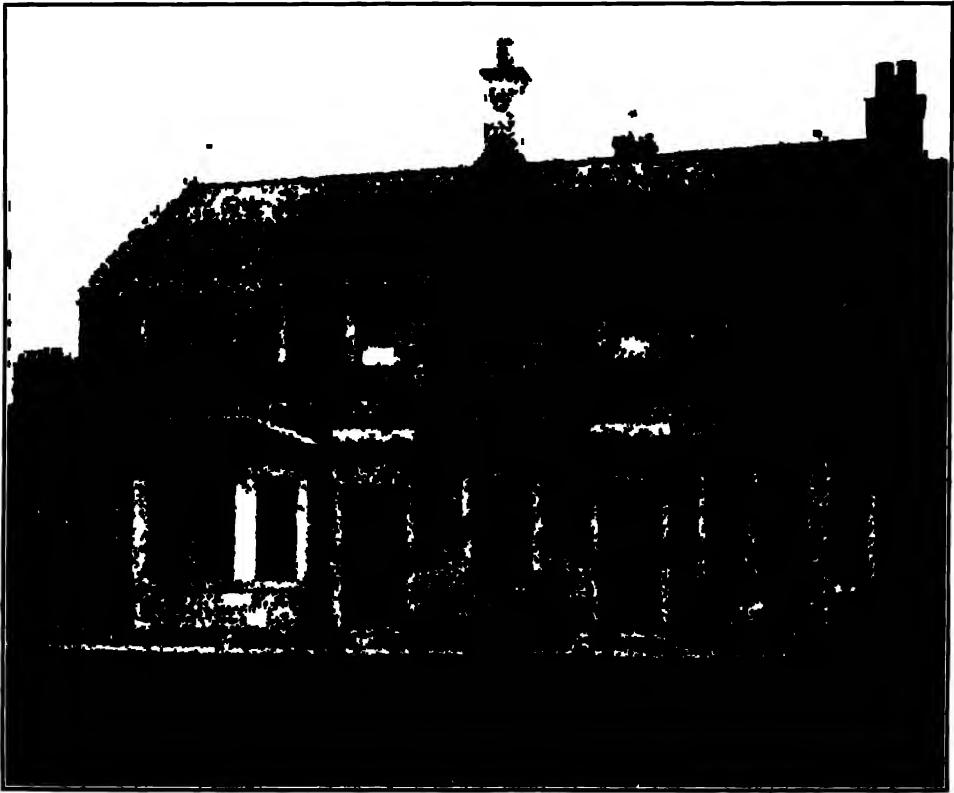
Inveresk Paper Mill.

Opening of the War Memorial Institute

The Inveresk Paper Mill War Memorial, of which we reproduce an illustration, has been formally opened in the presence of a large gathering of workpeople and others, including Mr Cranston the company's secretary, Mr A Smith, managing director, Mr McCrow, Mr Alfred Smith, Major W B and Mrs Robertson, Dr and Mrs Ldie, Colonel White law and Mr and Mrs Constable

forth from the mill and made the supreme sacrifice. He had a list of names but it was hardly a complete list but so far as could be gathered, the following had fallen — John Winter, Wm Crombie William Williamson Robert Hume, John Williamson, Alexander Fairnie Robert Ferguson, John Vasse Alexander McIntyre, Robert Cowie, William Balgrie John Caldwell, Archibald Hall Alexander Nesbit, John Brooks Robert Newlands John Sandilands, and John Welsh

Ex Provost Will Constable, the architect on behalf of the contractors presented Mr Smith with a gold key to open the club, and in doing so expressed the hope that it would serve to foster that kindly feeling which had



INVERESK PAPER MILLS WAR MEMORIAL INSTITUTE

Mr Walter Cranston, who presided mentioned that it was 29 years since Mr Menzies had opened the reading room and last year they had obtained possession of these premises. The management of the club was done by a committee of the workers, who had done their work well. In no instance had the directors any reason to interfere. In the library they had three thousand volumes, which had been bought out of the profits from the billiards. This was the Inveresk Paper Mill War Memorial and it would remind them always of those young men who went

always existed between the Inveresk Paper Mill Co and their employees

A Kindly Thought

Mr A Smith, managing director, in declaring the building open, said the institute had been provided through the kindly thought and generosity of their former employers, and it was the earnest wish of the present directorate that the fullest advantage be taken of the opportunities it afforded for their instruction, amusement and recreation and he felt sure they would all spend many a

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happy and profitable hour within its walls Mr Smith added that he could not avoid making some reference to the critical times through which they were passing owing to the present unfortunate trade conditions and it was a matter of much concern to the directors that the workers had had such a spell of short time. However they must just make the best of things as they were and keep on hoping for better times soon. Mr Cranston had made fitting reference to the men who went from the service of the company to serve their king and country in the Great War and he hoped they would ever be grateful to them for the part they took in defending their lives and liberty. It was the intention of the directors that there be placed within this building a memorial tablet inscribed with the names of those who had fallen. This memorial would remind them and coming generations of their self sacrificing patriotism.

The company then inspected the club room and expressed pleasure with everything they saw.

Reminiscences

I was subsequently served in Innes Hall, under the presidency of Mr McCrow who delivered an address full of interesting reminiscences.

Mr McCrow said Much water has run down the Esk since first I knew the Inveresk Paper Mills and the late Mr Menzies with whom many years afterwards I was privileged to have more than ordinary business friendship. About the same time I also got to know the late Mr Brough father of the present works manager Mr David Brough who was long associated with Mr Menzies in the management of the mill and then later I made the acquaintance of our good friends Mr Cranston and Mr Lait who are here to day and who will continue to occupy responsible posts in this large industrial concern. It will be interesting to many to recall the fact that the property was first purchased in the year 1864 by members of the Cowan family whose name stands out prominently among the pioneers of the paper industry in this country and is still reputed to day not only at home but also in the overseas market for the excellence of the papers manufactured at Penicuik. The late Mr Robert Charles Menzies who was apprenticed at the

Valleyfield Mills, was a man of sterling character possessed of great business abilities and in the paper trade to which he devoted his life, obtained a prominence which was universally recognised. The late Mr James Brough was also a practical paper maker, and a man greatly respected, many of us will ever remember his many good qualities and his fine personality. The memory of these two gentlemen will, I am sure long remain fragrant in this place because of what they were and on account of the practical interest they took in everything which concerned not only the workers in the Inveresk Mills, but the entire community. In 1914 Mr Gourley took over the executive duties connected with the management and he had associated with him Mr Charles Menzies Cowan who had been at the mills for a number of years.

Long and Faithful Service

Two interesting facts are worthy of special mention here, namely Mr Walter Cranston the valued secretary of the company attained his jubilee of service in connection with the mill at Valleyfield and Inveresk during the present year and Mr Henry Lait the manager of the enamelling and coating departments has now spent the long period of 56 years of his life likewise in the service of these two mills. Mr John Brown who was head engineer at Inveresk until he resigned quite recently had also a record of 26 years service.

Mr Cranston informs me that Inveresk Mill first began to manufacture paper in May 1876, with one machine. Prior to that time from 1864 the mill was engaged in making what is technically described as hall stuff for the Valleyfield Mills at Penicuik. In 1881 a second machine was installed which brought up the weekly production of paper to about 60 tons. On March 5th, 1892 the third paper-making machine was introduced, followed by a fourth on October 26th 1905 which resulted in the output being increased to something over 160 tons of paper per week. The coating factory which was erected in 1880 and since then greatly added to is now capable of turning out go to 100 tons weekly, and all told the number of people employed in this hive of industry is close upon 600. The housing question which has been a difficulty everywhere, on

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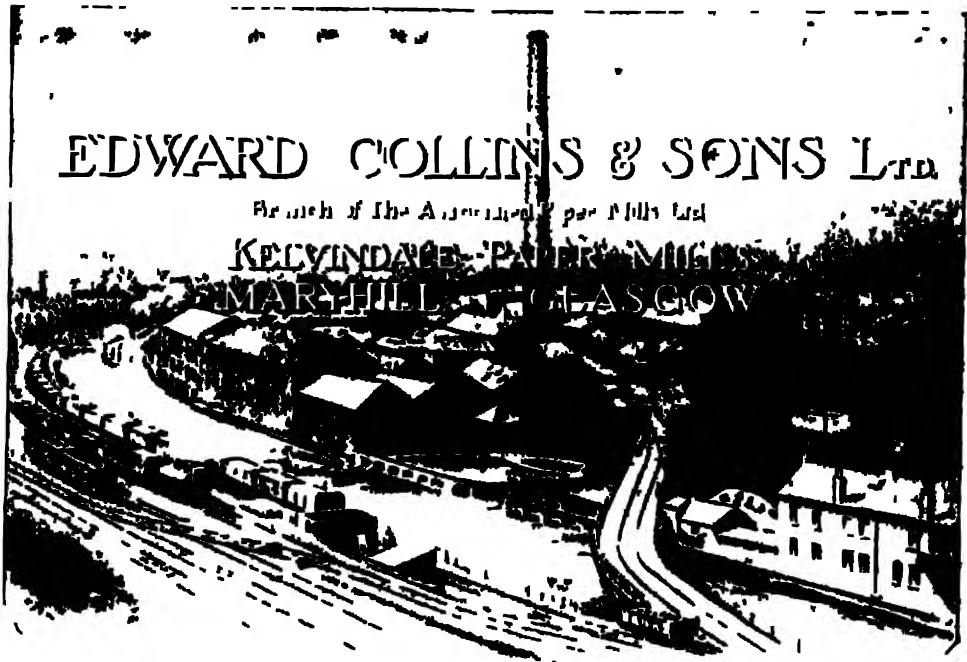
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account of the very high building costs was early taken in hand at Inveresk, and a number of modernly arranged houses have been recently completed for the accommodation of the workers. You have now the handsome and commodious institution which has been opened to day alongside that beautiful bowling green which Mr Cranston claims to be second to none in Mid Lothian and in such condition, and within easy reach of the city, it would seem that Inveresk should be a most desirable locality in which to have your abode.

Passing from these details I have now to say by request of the directors of the new company, which has acquired the mills within the past year, that, counting upon the continued loyalty of the employees and with the energetic and highly skilled management of Mr Smith, they believe, notwithstanding the present unfavourable trade conditions that the Inveresk Mills will again have if not a fuller, at least in an equal degree, that success which they have enjoyed in the past. The excellent quality of Inveresk papers is well known to the trade and it is for you who are now employed in the mills to see that this reputation loses nothing in your hands. If I am to say anything more as to the future it is to tell you that while I am well aware of the many difficulties surrounding the situation yet I have abundant faith in the recuperative powers of the old country, and therefore I am no sharer in that gloomy pessimism which seems to have settled down upon so many of us. This is not to be wondered at, however, considering the depression which has been hovering over trade and all our commercial activities for so long, but speaking for myself I verily believe that the worst days are over. Already in several directions we can discern distinct symptoms of improvement which if not already, will no doubt come the way of the paper trade before long, and if only those of us who are engaged in industry, employer and employed would come closer together and set ourselves seriously to the task of finding a way out, I feel certain that much could be done to help matters, and that soon this terrible depression which is not only menacing our prosperity but also our position in the world, would disperse and clear away as the passing of the clouds in the sky.

Speeches were also given by Major W B Robertson, Dr Edie Col Whitelaw, Mr Tait and Mr Hall, who issued a challenge on behalf of the Inverkeithing Mill to a golf and bowling match.

Mr Brough in moving a vote of thanks to the directors said that what was needed most at the present time was a great united effort and there would be no doubt about the Inveresk Paper Mill maintaining the proud position it had always held.

This was seconded by Mr Constable.

After a vote of thanks to the chairman the company sang 'Auld Lang Syne' and the 'National Anthem', and thereby brought to a close a red letter day in the history of the Inveresk Paper Mill Co.



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The Russian Paper Market.

Product of German Mills in Government Offices

A big factor in the world's paper market conditions for many months past has been the abstention of Russia as a paper consumer. In normal times Russia imported large quantities of pulp and paper from Finland, Sweden, Norway and Germany. Her inability or unwillingness since the revolution to buy from these countries has been responsible in a large measure for their turning to the trans Atlantic market where they compete with Canadian and American producers.

At the present time the Soviet Government of Russia is making extensive purchases of Finnish, Scandinavian and German paper. According to a report made by US Consul Leslie A. Davis of Helsingfors, Finland, Russian purchases of Finnish paper and other commodities have amounted to 40,000,000 Finnish marks. Russia, according to the report, is practically out of paper. Russian paper mills have ceased to operate. The Government has seized all stocks of paper leaving but a limited quantity in the free market.

Private individuals get no paper at all. Theatres, opera houses and other places of amusement use old forms for tickets. News papers vary their circulation according to the paper supplies allotted to them, sometimes issuing small and sometimes larger editions.

Books for propaganda purposes are given the preference and when their requirements are satisfied no paper remains for educational works. In Petrograd five daily newspapers maintain an existence in spite of the paper famine. In Moscow there are also five. All are government owned, there being no private newspapers in existence.

Next to Finland, Germany seems to be

forcing the Russian paper market. Large lots of German rotation and mouth piece paper and different sorts of sheet paper were stored in the customs houses at Moscow, reports the delegate of the Finnish Paper Mill Association who recently returned from Russia and who is quoted by the American Consul. Writing paper with German watermarks could be seen everywhere in the government offices. The German business men made satisfactory deliveries and the prices were very favourable. The Soviet representative has been staying in Berlin where he made large purchases.

Ordinarily Russia is capable of absorbing practically the entire export output of Finnish and German paper.

Finnish Pulp and Paper Exports.

Exports of pulp and paper from Finland during August —

	August kg	Jan Aug kg
Paper Pulp		
Mechanically prepared wet	4,244,000	9,241,000
Mechanically prepared dry	2,406,101	9,272,770
Chemically prepared, sul		
phate pulp, wet	491,706	2,026,265
Chemically prepared sul		
phate pulp, dry	1,915,781	31,440,177
Chemically prepared sul		
phate pulp, wet		40,262
Chemically prepared sul		
phate pulp, dry	2,011,406	7,469,375
Cardboard and Pasteboard		
Cardboard	605,631	4,115,000
Paper		
Wrapping paper, brown	774,174	1,262,589
Wrapping paper, other kinds	514,709	2,448,403
News paper	7,262,158	12,410,802
Wall paper	45,144	40,911
Writing paper	1,955,661	21,041,212
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A Clean Sheet.

**Points of Manufacture Where Dirt May
be Eliminated**

By MR FARL DEWEY

The manufacturers spend thousands a year in trying to produce a clean sheet of paper. We know that paper which is not sold for "firsts" has to be sold for "seconds" or "thirds" or has to be milled over again, meaning the loss of labour, and many other things. In order to illustrate what I intend to show, I will ask the reader to walk with me through the mill to get acquainted and try and locate some of the papermakers' difficulties.

We will start from the bale of rags. A bale of rags has to be loosened, so they are run through a machine which is called a spreader. They are then taken to remove all buttons, hooks, eyes, etc., and the seams that are in the rags must be opened to loosen the dirt that might be in them. When this is done they are sorted and put in piles according to their value. They are next run through a set of knives which cuts them into small pieces, from which they are put through a large screen that is called a duster to remove whatever dirt is left in them, and then cooked to remove all oil and grease.

The rags are then washed and bleached, and dropped into large vats or what papermakers call drainers, to drain out the liquors and gases that are used in cooking and bleaching. They are then ready for the beating engines, where there is a large roll of bars that cuts these rags into small, fuzzy fibres. After a length of time we let these fibres down into a chest, from where, if we do not have a jordan, they are pumped up to a box called a stuff box where they are mixed with water and then run along into a box called a sand catcher and into a screen that lets it flow on to a wire cloth where it is formed into a thin layer. It is squeezed and run on felts to get whatever water which could not be got from it when on the wire and then run over large cylinders filled with steam to further dry it.

We now have a sheet of paper. In going along no mention was made of the use of wood nor of the various chemicals used to give durability, colour, sizing, etc., as there are so many ways that these are used and I would be drifting from my subject.

Where Dirt Arises

Now that we have a sheet of paper, let us try to find where the dirt is coming from. Starting at the washing engine, we know there is a large roll that draws the rags out into long fibres. This roll has a good many steel bars and is continuously revolving in water. In this washing engine there is a device called a button catcher that catches hooks, pins, buttons, etc., that might have got

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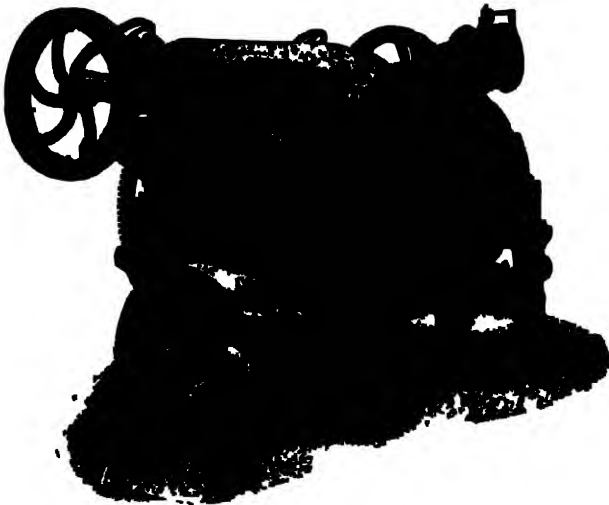
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in during the sorting. If this button catcher is not clean the buttons etc., will break away with the result that they will get into the stock go through the mill and make a lot of waste. When the stock is washed and bleached, we are ready to let it down into the drainers. Did you notice the floor of your drainer and the side walls? Was it fit to let down the clean white stock?

If we are ready to furnish our beating engine, we must get the stock up. If you are digging stock are you walking on it with dirty shoes? Did you notice the condition of your stock car is it fit to put nice white stock into? If you do not notice these how can you expect to make clean paper? And they say it is in the stock.

We are now ready to furnish the beater engine, where there is a large roll with bars that is continuously revolving in water. Water eats away iron. How often do you scrape these bars on this roll? The water is eating the bars on this roll and the result is that rust and metal is breaking away and showing up in your paper.

Twenty per cent of your dirt is coal dust. Where is it coming from is it from the chimney in your boiler house? It can't get into your stock if you keep the windows down.

The Water

We cannot make paper without water, can we? We know that water runs a long way

and that after a while will rot a stone away. Then if little specks break away from the stone and it gets through the filter, what would stop it from getting into your stock? The water that is used on your beaters washers and machine is usually filtered and in a good many mills that I have worked in the water pipes overflow. Water bags should be placed to catch the rust and dirt that comes through. Supposing that these bags fill up and they break open, what becomes of the sediment that was in the bag? Many a man watches his work but this happens to be the best of them, I know from experience. A good idea is to attach a sand box to each pipe, they pay for themselves in a short while.

We will now get our stuff into the chest. How are the joints of the chest are they rough? Has slime started to accumulate? How is the seat of your stuff pumps, are they slimy? How are the pipes that the stuff runs through? Right here may be the cause of some of your weight trouble. If the ball does not fit the seat in your stock pump and the seat is slimy variations can be expected in weights because your pump is not giving results and will cause lumps and strings to gather. This is only a suggestion from experience there are many ways to cause variations in weight. To get back a bit how long are the pipes from your chest to your machine? I believe that all pipes should be

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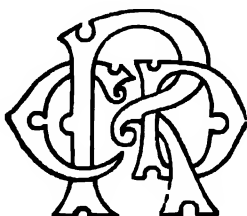
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as short as possible and put up so that they can be taken down in short notice

We will go to the stuff gate now and let the stuff run through the sand catcher. Some men believe in a short sand catcher. If you run the stuff through a long sand catcher, it will make it slow. If the bottom of sand catcher has a nice, long nappy felt on the floor and you have it arranged so your stuff has an up and down flow, it gives the dirt a chance to strike this nappy felt and cling to it.

A Metal Catcher

Rust and metal are other things to be considered. A good many paper machines today have metal catchers. I believe a good place to have this is just before it strikes the screen because you are running the stuff through a long sand trap and you have it arranged to give that up and down flow. The long nappy felt is getting the most of it, so that the metal catcher will not have to do much work—and I think you can get better results.

We are now ready to run our stuff over the wire. Beneath the wire is a box called a save all which catches everything that comes from the wire. If the save alls are made so the men cannot wash them out, the slime that accumulates breaks away with different speeds of the machine.

How about the wet broke at your press rolls? Are you throwing broke into a car that you use around your washing engines? Are there fifty kinds of colours in it? All these

little things go to show how easy it is to make dirt. If men would spend a little more time and watch these little things in different departments, it would mean a great deal to the manufacturers, and to the men themselves.

With all my experience, I have never run across a man that did not want to give results in a paper mill. I think if men were given time and force of water, etc. the manufacturers would save in their finishing room thousands a year. The employees cannot do everything—it is up to the management of a mill to have a system.—*Paper Industry*

German Paper in Egypt.

News reaches the Federation of British Industries from Egypt that German competition has lately become very severe in the paper trade in that country. As a result of this competition importers who lately bought from the United Kingdom or Sweden are involved in a considerable loss.

Manilla papers of the finest quality can now be obtained from Germany at £23 per ton c.i.f. Alexandria. This is £10 per ton cheaper than the United Kingdom price. German manufacturers are also extending their credit facilities and consider no order too small to execute.

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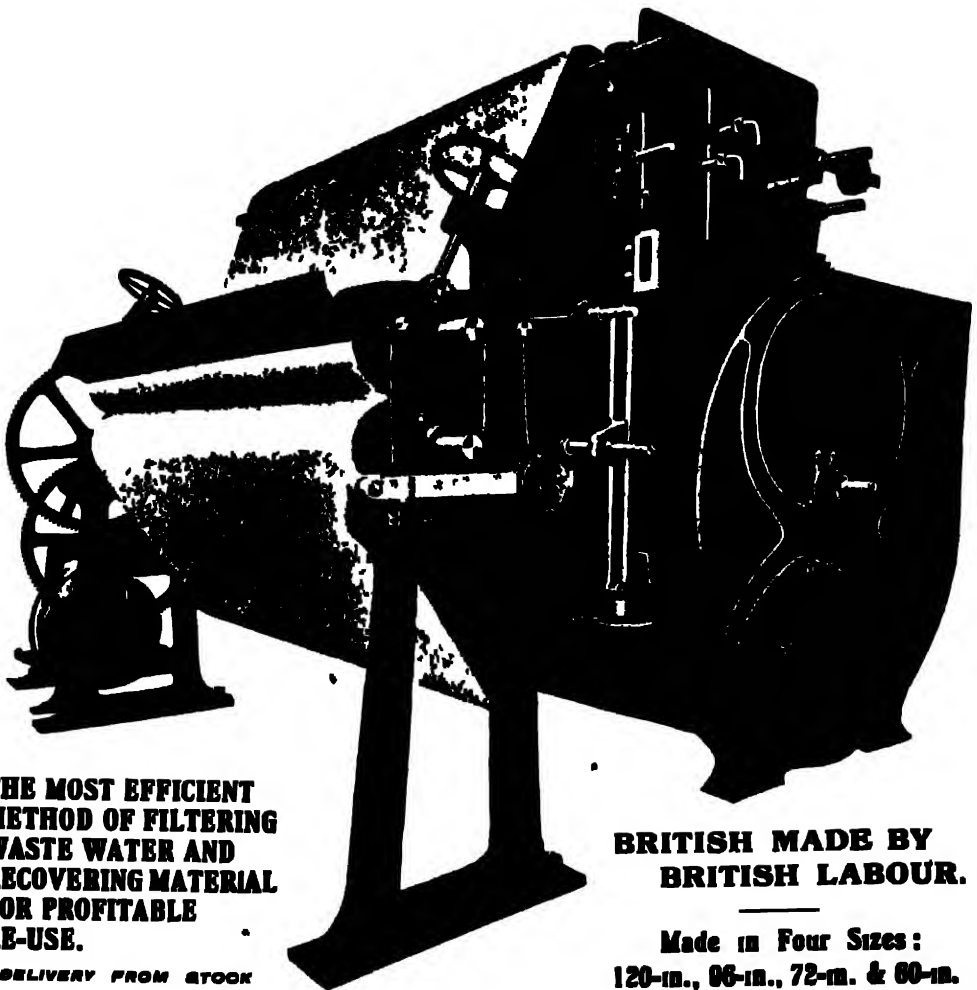
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PORRITTS AND SINGLER LTD—Interim dividend paid pending settlement of excess profits duty

ODDINGS PRESS—Half yearly interim on ordinary at rate of 10 per cent

YATES AND THOM LTD—Dividend of 5 per cent less tax on ordinary shares placing £10,000 to reserve carrying forward £15,084

MESSRS JELBER LUCKER AND CO LTD have secured the sole agency of the Wilhelm Haitmann group of mills (comprising nine undertakings) for all territory north of London

The Railway Rates Tribunal, appointed under the Railways Bill will consist of Sir I Gore Browne (chairman) Mr W A Jefferson, London and North Western Railway and Mr G C Lockett commercial member

The first issue of the new London morning newspaper, the *Westminster Gazette* will be published on Monday next from the old *Standard* offices at 104 Shoe lane. The price will be 2d and the title of the existing *Westminster Gazette* will remain unchanged

Mr OSCAR BIRKBY ICA (C) was on Friday unanimously elected deputy chairman of the Commercial Education Committee of the London Chamber of Commerce. He was also unanimously elected to serve on the Governing Body of the City of London College as a representative of the London Chamber of Commerce

In our article last week referring to the Finnish agency obtained by Messrs Chas I Cooke and Co it was inadvertently stated that they had taken over the agency for the United Kingdom of the whole of the news print output glazed and unglazed of the mills belonging to the Finnish Paper Mills Association. The agency is for England and Wales. As regards the sale of these papers in Scotland, Messrs Davies and Royle, the well known paper agents of 7 Old Swan lane, London, E.C. have been appointed sole selling agents

EAST LANCASHIRE PAPER MILL RECREATION CLUB—A social and dance promoted by the committee of the above club was held on Saturday in the firm's dining hall. About 120 members and friends attended. During the evening the prizes for the Tennis and Bowling Handicap were presented to the winners. Mr Wm Spencer presided, and Mr John Prestwich presented the tennis prizes as follows: 1st prize (Ladies), Miss Sandiford, 2nd Miss Healey, 1st prize (Gents), A Dykes, 2nd, F Barlow. Mr William Kirkman presented the bowling prizes: 1st, J Clarke, 2nd W Barnsley, 3rd, J Collier, 4th, A Bullas. Refreshments were provided during the evening. The following artistes assisted

to make the evening a great success. Messrs I Markland, R Smith G Banks and Mrs Freer accompanist

For the funeral of the late Mr John I White, of Ramsbottom, a former employee of the Ramsbottom Paper Mill, wreaths were sent by the employees of the mill and the labour organisations connected with the paper industry

The damage done by the wood pulp fire at the wharf of the Sittlingbourne Paper Mills is estimated at £30,000

Four men were injured though not seriously, by an explosion at the dyeworks of Levinstein, Manchester

An exhibition of costumes, flowers, baskets, pictures frames, etc. all made of paper has been held at Rushworth Hall Liverpool. Demonstrations were given to show how costumes for fancy dress or amateur theatricals can be made at home

In Mr W H Silvester's contribution last week on Moisture Content page 1541 there crept two errors. In paragraph 5 line 2 second press should read second press felt, and in the last line on the first column the word wire should read will

In a booklet issued by the rector of St Andrew Church Whitefield near Manchester in connection with the dedication and re-opening of the church which took place on Saturday afternoon last the following entries of benefactions are of interest to the paper trade. Chancel screen surmounted by a cross in memory of Mr J H Wild and Mr Walter Wild, given by Mrs J H Wild and Mr Walter Wild and their children, Communion rails, dorsal curtains and carpet in side chapel given by Mrs C R Seddon, prayer desk for side chapel given by Mrs John Seddon

POSTAGE RATES DEPRESS TRADE—A deputation from the Joint Industrial Council of the Printing and Allied Trades waited upon the Postmaster General on Wednesday, and urged the desirability of re-establishing the half penny post on printed matter. It was stated that the picture post card industry was practically stagnant owing to the falling off of orders. Colonel H R Fletcher mentioned a case where a firm considered they would save £4,000 by posting advertising matter from the Continent. The Postmaster General promised to give consideration to the evidence placed before him

MESSRS WIGGINS, TLAPE AND CO (1919) LTD are issuing invitations to witness a private exhibition of their cinema film representing the recent visit of the Prince of Wales to their Devon Valley Mill. The exhibition will take place at the West End Cinema Coventry street on November 10th at noon and again at 12.45 p.m. The film which takes 25 minutes to exhibit is not only an interesting pictorial record of an unprecedented incident in the paper trade, but will be found highly instructive to those who wish to become more familiar with the machinery used and the processes employed in the making of high grade papers

Papyrus Lodge (No. 2562).

Installation of Mr George Buchanan as Worshipful Master

Freemasons associated with the paper trade were in strong force at the Hotel Cecil on Wednesday the 2nd inst when Mr George Buchanan a director of Messrs Becker and Co Ltd was installed in the chair of the Papyrus Lodge (No 2562). The brethren of the Royal Thames Lodge (No 2966), of which Mr Buchanan is a P.M. were also strongly represented, whilst grand officers present were Mr Percy Mallory and Mr M P Ralph Papyrus



THE SEVEN

MR GEORGE BUCHANAN

is essentially a Paper Trade Lodge and its success since 1895, may be attributed to the true masonic spirit shown by its keen and able Worshipful Masters. The traditions of the past will according to unanimous opinion be ably sustained by the new Worshipful Master whose popularity was evidenced in all directions.

The outgoing W.M. Mr F J Court impressively conducted the installation ceremony. The following officers were invested by the

Worshipful Master W V Marchant, S.W. J de Q Dodds J.W., F I Cayer, treasurer James Bailey, secretary A H Archibald S.D. W Rowlandson J.D. F I R Becker D.C. C Newell A.D.C., G J Ralph almoner, J V Lunbridge assistant secretary J L Greaves, I.G. Fred Freeman permanent S., I J Stanton, S.S. W J Johnson JS, R Triggs JS and I Bowler tyler Mr C Newell P.M. conducted the ceremonies in his usual able manner.

At the banquet in the evening Mr Buchanan met with a most enthusiastic reception the gathering being one of the largest in the records of the lodge. The visitors were very numerous among those present being Sir Robert Baird Bros William C Corke C R Seddon I D Nuttall etc.

The usual Masonic toasts were submitted in appropriate terms by the Worshipful Master. Responding for the Grand Officers Mr Percy Mallory P.A.G.D.C. remarked that it was always a pleasure to visit Papyrus Lodge, and he warmly congratulated Mr Buchanan on his election as W.M. Touching upon the Masonic Million Memorial Fund he was confident that Papyrus Lodge would do its best to carry out the proposals.

The toast of The Worshipful Master was submitted by Mr I J Court I.P.M. and Mr Buchanan in response said he was proud to occupy the position he did that night. A quarter of a century ago his interest was aroused in Freemasonry and in the Papyrus Lodge particularly and he attributed this to the spirit of Mr Becker with whom he was closely identified in business life. He (the Worshipful Master) was highly gratified with the enthusiastic reception given to him.

The Worshipful Master proposed the Installing Master and presented to Mr F J Court amidst applause, the Past Master's Jewel.

Mr F Becker, P.M. L.R., submitted 'The Visitors' giving them a most cordial welcome. He said it was most gratifying to give honour to their Worshipful Master with whom he had been associated in business for many years. Mr Becker urged the Worshipful Master and the brethren to get together in order that they may be able, in addition to meeting the claims of the various charities to have in hand funds to meet any personal cases that may arise. The brethren knew they were going through an exceptional period at the present time.

Dr Sellers and Mr C R Seddon responded for The Visitors the latter remarking that it was the first time he had attended a London Lodge and he had something to take back to Lancashire. He heartily appreciated the cordial welcome extended to him.

Sir Robert Baird also responded and gave an extremely interesting account of the Irish Lodges.

The Past Masters (responded to by Mr I M Fells) and the other usual toasts were duly honoured.

An excellent musical programme was rendered during the evening under the direction of Mr R J Triggs.

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WASTE PAPER ITS RECOVERY AND RE MANUFACTURE By Jas Strachan. A Fund of Information, price 12s 6d. - Stockhall and Gallus, Publishers, 58, Shoe lane, London, E C 4

the Technical Section of the Papermakers Association all doubt must have been removed on Friday night, when a large gathering attended at the Connaught Rooms to hear Mr Farrow's address on the subject. The address itself which is printed in another part of this issue, was very carefully prepared and met with full appreciation. There was a larger number of members attending than usual, and, in addition to the original members who have always given their support to the London gatherings, there were several of fresh faces, due to the fact that the Section had aroused a new source of interest. The discussion itself added valuable points for consideration, and other aspects of costing will no doubt in due time be taken up by the Section because Mr Farrow's paper, as he pointed out, only referred to fine paper mills, whereas there are other factors of paper manufacture which would doubtless require different treatment. It was exceedingly useful to have the subject taken up in the first place in Mr Farrow's capable fashion and he placed the Technical members of the industry under an obligation for the trouble he took and the courtesy he displayed at Friday's meeting.

Personal.

AMONG those who attended the festival dinner of the Printers Pension Corporation at the Connaught Rooms on Wednesday night were Sir Frank Newnes, Sir Arthur Spurgeon, Major C. W. Lundgren and Messrs Stanley Cousins, Walter Spalding, Leonard Spalding, A. R. Iago and I. G. Newland.

NOMINATIONS have recently been made by the various sections of the Papermakers Association to the District Committees.

MR JOHN A. KIDD is the only new member, being appointed by the Spartan Section to a seat on the Scottish Committee. It will be recalled that Mr Kidd recently left London in order to become managing director of the Ellangowan Paper Co., Ltd.

MR R. GILROY, who has for so many years been a member of the Northern Committee, is once more re-appointed.

ONE is glad to see that Mr J. Dobson is still continuing his interest in the internal affairs of the Papermakers' Association. He has again been nominated a member of the Scottish Committee, both on behalf of the Brown and the M. G. and F. G. sections.

THE engagement is announced of Captain Maurice H. Garrard M.C., late 1st K.O.Y.L.I. to Jean, younger daughter of the late Augustin Spicer and Mrs Spicer.

MR S. T. L. ALSTON (Felber Jucker and Co., Ltd.), and Mr Harry Clegg (Lewis Clegg and Son), have been on a visit to Germany.

AN interesting post card covered with a variety of signatures comes to hand from "two Englishmen in a Berlin Students Club."

MR ALSTON has now returned from Germany, where he was successful in having up the agency for the Wilhelm Hartmann group of mills as mentioned in our Trade Notes.

MR A. W. FOSTER, secretary of the Papermakers Association, delivered an interesting address on the 'Ideal Manufacturers Association' before the trade association secretaries on Thursday at the Trocadero. His discourse raised so many important points that although the discussion continued to a late hour it was decided to continue consideration of the paper at the next meeting.

MR D. A. BRENNER, O.B.E., director of the British Engineers Association, was in the chair, and among those attending were Mr I. L. Armstrong, secretary of the Employers Federation of Envelope Makers and Manufacturing Stationers, and Mr A. I. Goodwin, secretary of the Federation of Master Printers.

MR W. R. RAITT, F.C.S., Cellulose expert to the Government of India, has been awarded the medal of the Royal Society of Arts for his paper on 'Paper pulp supplies from India.'

MR I. A. DAVE has consented to address the South West London Master Printers Association at the December meeting on the subject of 'The Printer and His Paper.'

MR SETH I. BUSH, manager of research, has been appointed president of the Costing Association of the American Paper Industry.

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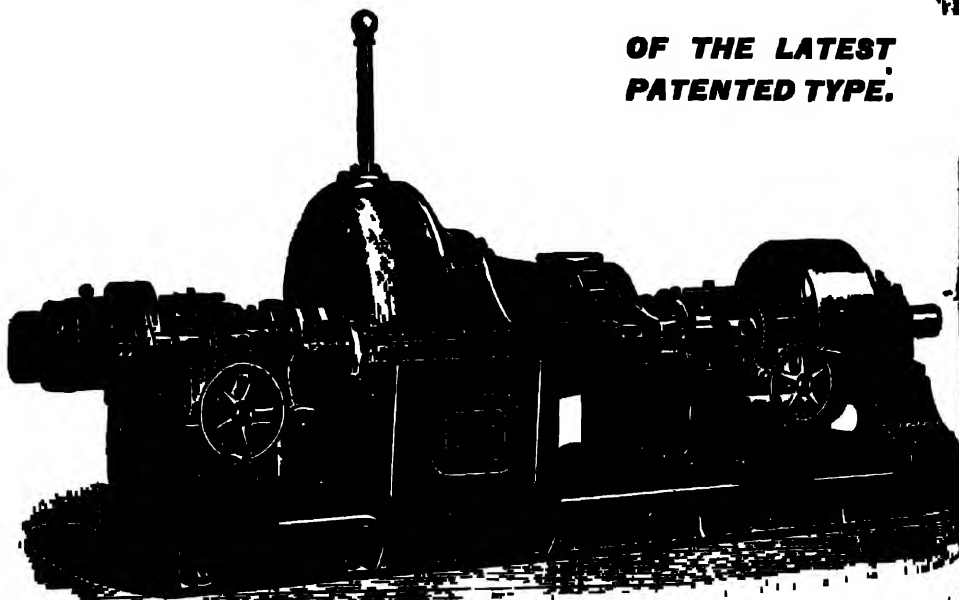
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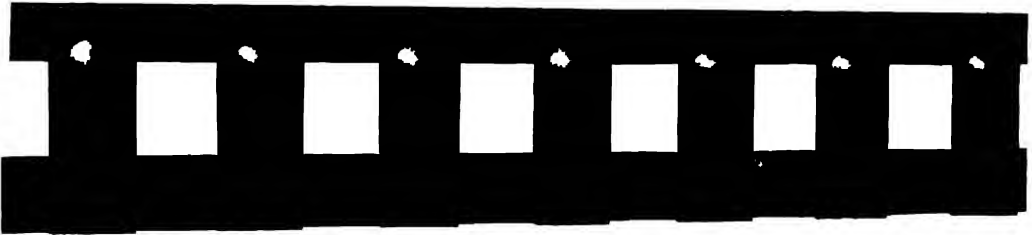
The Efficient Doctoring⁰¹ ROLLS AND CYLINDERS.

By F W VICKERY, O B E, M I M E C H E

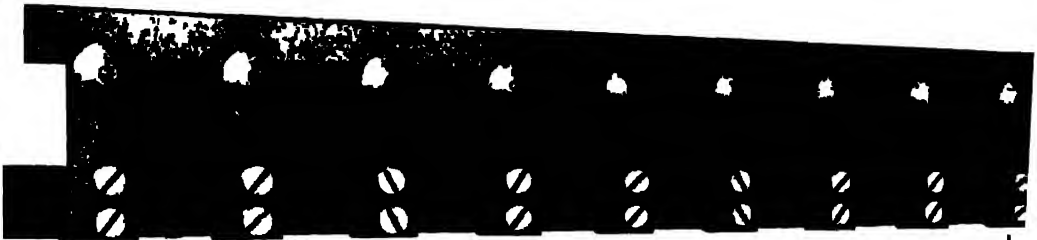
I believe it will be accepted that for years papermakers have fully realised the importance of doctoring not only calender rolls, but also drying cylinders and intermediate rolls

modern machines have been equipped with mechanism for the purpose. Yet it will not be disputed that fully 50 per cent of the doctors that have been fitted have fallen into disuse and the meagre results from the remainder have been obtained only by unceasing attention on the part of the engineering staffs. Even then, the risk of scoring, has always been a serious one.

Hitherto, the idea that appears to have been followed is that the greater the pressure of the blade on the roll, the greater the chance of doctoring. This theory, however is now



A "VICKERY" DOCTOR READY FOR BOLTING ON IN PLACE OF RIGID BLADE



A "VICKERY" DOCTOR EQUIPPED WITH DUST TRAP FOR OVERHEAD POSITIONS



A "VICKERY" DOCTOR, COMPLETE WITH CARRIAGE AND SPECIALITY DESIGNED BEARINGS FOR A CALENDER ROLL NOT EQUIPPED WITH DOCTOR MECHANISM

and but for the impossibility of finding a satisfactory method, doctors would be in universal use to day. Many attempts have been made to meet the need, and, generally speaking,

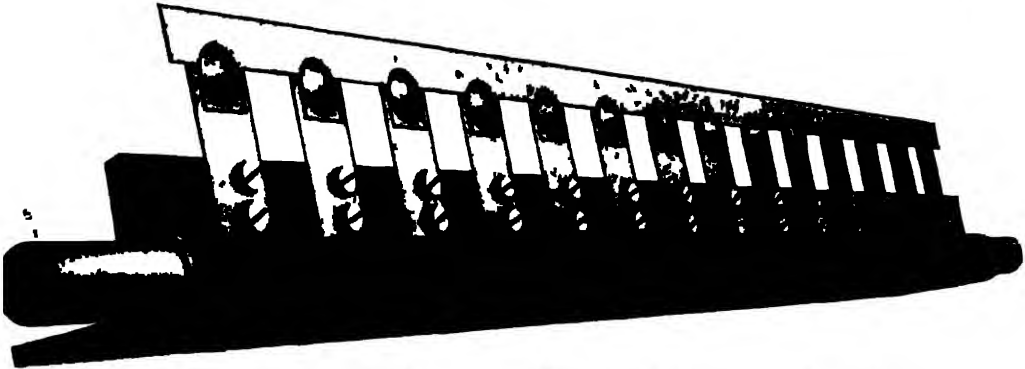
proved to be entirely wrong. For efficient doctoring, what is required is slight pressure automatically and consistently applied for the whole length of the roll or cylinder.

In the construction of the 'Vickery doctor, revolutionary departures have been made from previous practice. The blade, which is of a special steel alloy and extremely flexible, is not attached directly to the doctor carriage, a series of adjustable spring members being interposed between carriage and blade. Each spring member is provided with an automatically locking screw which permits of the initial adjustment of the blade to the roll being quickly, easily and accurately made at all points. Perfect contact of the blade

to irregularities and to follow lumps or hollows without contact being disturbed elsewhere. Provision is also made for bodily movement of the roll.

Apart from the fact that efficient doctoring is obtained by this means the slight pressure of the blade on the roll makes scoring or damage impossible and the disorganisation and expense of removing and regrinding is avoided.

The "Vickery" doctor takes the place of the rigid blade in existing doctor mechanism,



A 'VICKERY' DOCTOR COMPLETE WITH CARRIAGE FOR FITTING TO MACHINE NOT EQUIPPED WITH DOCTOR CARRIAGE

with the roll is thus obtained for its whole length with far less time and trouble than are necessary with the costly process of fitting or "bedding on" by filing, which, even when carried out fully to properly accomplish its purpose. Again, the necessity for periodically removing the heel from the rigid blade is eliminated.

After the initial adjustment of the blade to the roll has been made by means of the adjusting screws the combination of the flexible blade and the spring members enables any portion of the blade to automatically conform

or where no doctor mechanism has been provided, it can be adapted to any design of carriage desired. The only part of the doctor that requires renewal is the blade itself. The cost of this part is quite insignificant and the fitting of a new blade is a matter of less than an hour. The life of a blade varies from three to fifteen months according to conditions.

In a further article, I propose to deal with the scientific aspect of doctoring and to show why the old theories have failed to produce efficient results.

A. STRACHAN, 16, West Meade, C-C-Hardy, MANCHESTER.

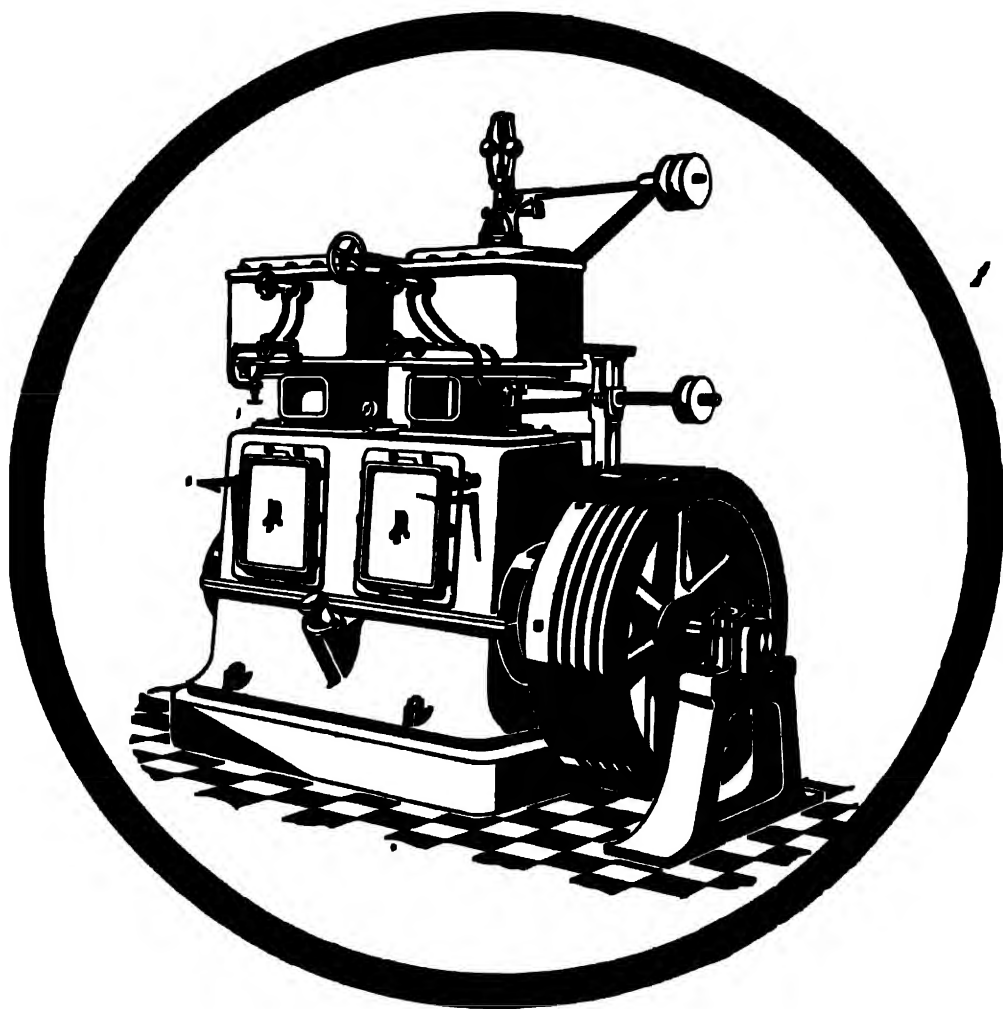
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High Speed News-Print

To the Editor of the "World's Paper Trade Review"

Sir, - We have perused the remarks in your journal No 17, October 21st, page 1474, under heading High Speed News Print, and note what you say in the last paragraph. As stated we think that paragraph misleading.

When the Laurentide Company first speeded up their news print machines to 1,000 ft difficulties were experienced in one or two directions, particularly with the flow boxes, and until alterations could be made thereto it was necessary to slow down the machines once more. Both the machines are now running at or over 1000 ft per minute, and we are advised that the paper is superior to that which was formerly supplied.

These two new machines are driven by our Patent Interlock Drive with individual motors on each section and this drive has undoubtedly been one of the features which has made for the great success in the operation of these two paper machines.

Yours etc,

I or FHL HARI AND ENGINEERING
CO LTD,

1 CARLETON ADEKSON

Director

Manchester October 26th

—o—

Heavy Postal Surcharges

To the Editor of the "World's Paper Trade Review"

Sir - The question Messrs Spicer Brothers, Ltd raise in your last issue is an interesting one to traders and shows how the present Government (Post Office Department) put restraint on trade.

As regards samples and patterns, perhaps the writer's experience may warn some in time. He for long sent out circulars with patterns of paper printed with list of weights and sizes kept in stock. These were accepted as printed papers until the last batch, when one came loose and the circular fell into the hands of a would be vigilant official, who found the word sample in place of 'pat' tern. This was enough—there is no longer a sample post. We have got strict instructions that these must cease, as we are taking an undue advantage. Personally, we cannot see the difference, these are patterns of what we can supply, just as much as the lithoed patterns of the textile manufacturer or machine maker all of whose lists are allowed, and thus is the paper and printing trade penalised. We take it we can send out a circular, but it must not be on the goods we have to sell that it is printed.

In the same way a dealer in textiles, having bought a consignment which he wishes to sell rapidly, may send out a circular to his prospective customers, but he may not send out along with it even a postage stamp pat-

tern of the material. Note--We are quite well aware of the special regulations as regards circulars now.

Under these circumstances, with such a Government full of 'restraints on trade,' is it any wonder that we have paper mills, printing works, and textile factories shut to day and unemployment all round?

No, what we want is not these desk workers looking for restraints, but in London especially let them be put out to deliver our 'Scotch night mail' which now arrives about 8 a.m. prompt—in place of 12 in the forenoon, a waste of three to four hours—as was done by 9 a.m. in pre war, and in the same manner letters coming from England in pre war days were delivered here 9 a.m. whilst to day it is 11.30 a.m.

When Government sets the example of getting to work, the work will follow.

Yours etc,

THOMAS LAIT AND SONS, LTD

THOMAS LAIT

Inverurie, Oct 22nd

—o—

The Late Paper Controller

To the Editor of the "World's Paper Trade Review"

Sir,—I observe in your issue of October 28th a quotation from an article by Mr Ernest J P Benn. It seems that during the war the Paper Controller fondly imagined that he had got a grasp of the paper trade, including apparently the 60,000,000 transactions claimed by a great authority to take place every day of the week involving the sale and purchase of paper.

I have no desire to enter into controversy with Mr Ernest Benn. Since the days of Baron Munchausen no one has been more full of bully reminiscences than he. But I do desire to repel the suggestion that I was stupid enough to imagine fondly or otherwise that my Department was controlling (among other matters) the 60,000,000 transactions referred to. Such colossal stupidity would amount to genius, and this modesty compels me to disclaim.

Yours etc,

THE PAPER CONTROLLER OF PAPER

London, November 1st

—o—

Cotton Seed Hull-Fibre

To the Editor of the "World's Paper Trade Review"

Sir,—For many years past you have been good enough to publish in your valued columns from time to time statements from me respecting the employment of hull fibre produced by my hull debfibrating machine for the manufacture of paper. In such statements or letters, I have referred to testimonials received from Messrs Blanchet Frères, Kléber and Cie of France, Messrs William Joynton and Son of St Mary Cray, Kent, and other papermakers. I have also quoted from reports by Messrs Cross and Bevan, Messrs Clayton Beadle and Stevens, and other well known experts.

The United States patent rights for my hull debfibrating machine were acquired by the Memphis Cotton Hull and Fibre Co.,

Ltd in May, 1914 and I have learnt that radical departures in the original design have since then been introduced—no doubt with the very best intentions—by the Memphis Co.

I should like to point out that the above mentioned expert reports and testimonials refer to the hull fibre made by my *original* design of hull defibrating machine, and *not* to the hull fibre now produced by the Memphis Co.

I shall feel grateful to you if you can find space for this disclaimer in an early issue of your valued journal

Yours etc

ED C DE SEGUNDO

London November 2nd

Paper Production and the Shift System

To the Editor of the 'World Paper Trade Review'

SIR,—The letter of Mr Wm Ross on the above subject in your recent issue is not written in a very conciliatory spirit. Like Shylock he seems bent upon having his pound of flesh, whether the exaction of it means the death of his victim or not. Mr Ross offers no help to the problem of want of orders, nor does he seem to think the employees themselves with their demands for shorter hours and more money, have a good deal to do with the present deplorable state of affairs. Before the eight hours shift system began two men used to work 134 hours per week in some mills, now three men only work 132 hours, and the three men get much bigger individual wages than the two men did. All over I believe wages cost the employers three times as much as before the war, and this adds proportionately to the price of paper and further the out turn of paper under the new system is less. Mr Ross fears that the return to the twelve hours system would add to the unemployment question. This remains to be seen. At any rate the employment of three men instead of two has helped to bring the paper trade to the verge of bankruptcy. Costs will have to be cheapened if we are to recover our place in the markets of the world and the sooner the workers offer to do their share the better.

Yours etc

IMPI OYLI

A Big Amalgamation.

De La Rue, Goodall and J A Weir

An important business development is indicated by the announcement that underwriting is proceeding in connection with an offer of £100,000 8 per cent convertible mortgage debenture stock in Thomas De La Rue and Co. Ltd, which will be offered to the public at 98 per cent. The issue is made to provide the purchase price for acquiring the whole of the share capital in the business of Chas Goodall and Sons Ltd, the well known playing card manufacturers, and all the ordinary shares of J A Weir, Ltd, proprietors of well known paper mills in Scotland. In this way a powerful combination is formed which will control to a large extent the manufacture of playing cards in this country while there are also other important businesses such as engraving and printing of bank notes, postage and revenue stamps which extend to the Indian Government and practically the whole of the British Empire. The excess of assets over the liabilities of the combination amounts to £1,426,026 whilst the average net revenue of the past five years covers the interest more than three times. Great economies are expected to arise from the combination as the business allows of these being carried out.

The debenture stock will be repayable in December 1946 at 105 per cent or earlier, by means of a cumulative sinking fund commencing 1922 and which will be applied by purchase in the market or by drawings at 105 per cent. The debenture stock however, carries the right to convert into ordinary shares of the company on the following basis: Up to and including December 31st 1925 £112 10s of stock for 100 shares of £1 each and from then until December 31st, 1927, at £125 of stock for 100 shares.

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Mr Edward John Bevan

We regret to announce the death of Mr Edward John Bevan, FIC for nearly 40 years of the well known firm of Cross and Bevan research and consulting chemists. The sad event took place on October 17th. The deceased gentleman was the son of Mr Edward Bevan, of Birkenhead and was born on December 11th, 1856.

Following his early education at private schools, he passed to Owens College Manchester, in 1877, where he began the role of technical chemist which was to be his chief work in life. It was at Owens that he first made the acquaintance of Mr C F Cross and the two scientists continued thereafter for 42 years that close association which was only terminated by death.

Mr Bevan very early in life became practically connected with papermaking as chemist for three years with the Musselburgh Paper Mills of Alex Cowan and Sons. It was at this time that he began his contributions to the literature of the subject on an article on "Papermaking," appearing in *Spon's Encyclopedia*, the joint authors being Mr Bevan and Mr R C Menzies, director of Messrs Cowans.

Coming subsequently to London Mr Bevan and Mr Cross took up research work at the Jodrell Laboratory Kew Gardens where they continued and extended their technical work in relation to the constitution of the jute fibre substance. In 1892 Mr Cross discovered the viscose process of treating cellulose, and, with Mr Bevan and the late Mr Clayton Beadle patented the process. The industrial developments were subsequently launched through proprietary companies formed for the purpose in 1893 and 1900.

It was during their location at Kew that Mr Bevan and Mr Cross developed their connection with the paper industry. Their research work brought them into association with Mr George Fry FLS, of Thomson Bonar and Co, at the time when they were pioneering with Mr C D Elman the bisulphite wood process. A practical factor of these developments was the paper mill at Ilford under the successful management of Mr D'Oyley Mears and these together constituted the effective pioneer group of the industry.

In 1891 Mr Bevan found it necessary to launch out into the field of professional chemistry, and he secured the appointment of public analyst to the Middlesex County Council. He then became a well known and highly respected figure in local circles, with his residence at Watford.

He was closely identified with the activities of the Society of Public Analysts, occupying at intervals the offices of secretary, Fellow, member of Council and Vice-President of the Institute. Mr Bevan who was

never married, was associated with Mr Cross in many of his published works including the text book on Papermaking and he had been associated at New Court with all the technical scientific investigations in connection with paper. One of the public positions he occupied with a particular bearing on the paper industry was that of examiner in papermaking under the City and Guilds of London scheme an office he held for some years.

The funeral took place on Friday October 21st at the Watford Cemetery and a large gathering betokened the esteem which Mr Bevan enjoyed, both publicly and privately. Among those who attended were Mr W G Bevan (brother), Mrs I M Blake (sister), Miss Weare (cousin), Miss Kenway, Mr and Mrs Edward Wharton, Dr Bernard Dyer (representing the Chemical Society), Mr C I Cross FRS, Mr S Aston, Mr P Domone of the staff of Cross and Bevan, Mr L R Bolton FIC, Mr Wm Bacon BSc FIC (for 25 years assistant to Mr Bevan), Mr Richard Pilcher (registrar of the Institute of Chemistry), Mr D R Davey (formerly assistant to Messrs Cross and Bevan) and representatives of the various local institutions with which the deceased gentleman was associated.

Among the wreaths sent on the occasion of the funeral were emblems from the President and Council of the Society of Public Analysts, Middlesex County Council, Watford Conservative Club, Herts Bowling Club, members of the Green Room Club London, Mr R W Sindall and Mr W Bacon.

Papermakers' Association.

Nominations to the District Committees

Appointments have been made by the various sections of the Papermakers Association to the District Committees as follows --

Wood Free — R Gilroy (Northern Committee), A Baker and G E Osrick (Southern Committee).

Browns — H B Brindle and J McClelland (Northern), W F Nuttall (Southern), B W Stone and J Dobson (Scottish).

Royal Hands — H Dowding (Northern), P Seymour Smith (Southern).

M G and F G — W Clough and J W Cropper (Northern), J Dobson (Scottish).

Isparto — G Iulius, J Stewart, and J A Kidd (Scottish).

News — W Challinor and J Ridley (Northern), T Armstead and S Cousins (Southern).

Fine — H A D Wathen and E H Joynson (Southern), J Gray (Scottish).

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THE WORLD'S Wood Pulp Industry

Scandinavian Rates of Exchange

THE following rates were current on the dates mentioned (par of exchange to £1 Christiania Kr 16 1/9 Stockholm, Kr 18 1/9 Helsingfors, M 25 22) —

	CHRISTIANIA Kronor	STOCKHOLM Kronor	HELSINGFORS Marka
Oct 27	29 75 30 00	17 00-17 16	250 256
28	29 70 29 90	17 09 17 20	249 255
29	29 65 29 75	17 10 17 15	248 255
31	28 80 29 50	17 10 17 25	248 240
Nov 1	28 45 29 30	17 15 17 25	245 245
2	28 45 28 75	17 15 17 30	245-240

British Imports Sources of Supply.

THE arrivals of wood pulp at British ports from various countries during the week ended October 22nd 1921, were as under —

BLEACHED CHEMICAL—DRY

Norway 60 tons £1 360

UNBLEACHED CHEMICAL—DRY

Sweden 4 016 tons £124 485

Norway 1 198 „ 23 110

Canada 600 „ 15 000

Finland 35 „ 450

Germany 18 „ 229

Lithuania 15 „ 200

MECHANICAL WET

Canada 4 367 tons £62 299

Norway 4 041 „ 33 840

Germany 25 „ 526

United Kingdom

MORE hopeful and encouraging reports are coming to hand concerning the wood pulp market

ONE result of the improved tone is the firmer tendency of quotations

ACCUMULATED stocks of chemical pulp are now being cleared and papermakers are once more taking an interest in the market

ALTHOUGH of a small character, sales of wood pulp are reported to be developing, and sellers are more hopeful as to future business

PRESSENT prices are stimulating the interest of consumers, who evidently do not expect a lower level

UNTIL there is a general increase in consumption and a reduction of stocks the offers of German and Finnish mills are attractive at the moment

MOIST mechanical pulp continues to be a strong feature

INQUIRIES are forthcoming for delivery during the winter and into next year

MR W G THOMPSON has been appointed manager of the wood pulp department of the Chemical and Pulp Co., Ltd., 506, Salisbury House London wall, E C 2, who hold the agency for Great Britain and Ireland of the Koholyt Co's Cosse Mill (formerly the Nord-deutsche Pulp Mill Koenigsberg), manufacturers of Mitscherlich and Ritter Kellner sulphite wood pulps

Norway

THERE is at last some movement to record in the pulp industry

A BETTER demand is reported and prices are firmer especially in the case of moist mechanical

SILVER sulphite is in demand and quite considerable quantities have been sold for prompt shipment Some sales have also taken place for delivery over next year

SOME sales of easy bleaching sulphite have been effected at about Kr 500 per ton f o b

BLEACHED sulphite is in strong demand from all parts of the world, and prices have stiffened considerably

THE prices obtained vary very much depending on the exchange

THE average selling price may be given as Kr 620-630 per ton f o b

KRAFT pulp has been heavily in demand from U.S.A. and prices of Kr 450 per ton and more f.o.b. have frequently been paid.

BORREGAARD mills are about to resume full activity, after having been operating at only two thirds of capacity since the strike.

CONSIDERABLE quantities of moist mechanical pine pulp have been the subject of inquiries, and prices have gone up further.

Kr 110 has been obtained for usual qualities, but Kr 115 is asked for fresh ground pulp.

OWING to lack of water, however no great quantities of freshly ground material is expected to be available this year.

ACCORDINGLY it is expected that prices will continue to rise especially if the United States continues buying.

DRY mechanical is not so brisk as the moist quality although prices approximating to Kr 220/225 have been obtained for limited quantities for South Europe.

Sweden

DEMAND for chemical wood pulp is moving forward, though slowly.

MOST of the orders however appear to be going to Germany and Finland by reason of the lower quotations.

MOIST mechanical pulp continues in demand, though most of the business goes to Norway, where prices are 15 per cent below those current in Sweden.

It is reported that a contract for a couple of thousand tons of wet pulp has been made with a British consumer by a Swedish manufacturer at £4 10s per ton c.i.f.

SOME sales of dry ground pulp are also reported at Kr 120-125 net f.o.b.

THESE figures are described as very low and are induced by competition from Finland.

United States

THE improvement in the pulp market is fairly well maintained.

BLEACHED sulphite has been in considerable demand, and fair quantities have changed hands at prices which are more favourable.

DOMESTIC producers of kraft pulp have had rather a good time of late owing to the absence of supplies from overseas.

SODA pulp is in a strong position, demand being close to normal, with prospects of still further improvement.

FROM every point of view the chemical pulp market is now said to be assuredly getting stronger with prices either holding steady or working gradually upwards.

MECHANICAL pulp continues in fair demand and further activity is predicted in the near future. Available supplies are limited, a condition of things which is likely to bring the market in favour of sellers.

Canada

THE market both for pulp and paper is at last on the mend, and a greater feeling of optimism is about than there has been for a long time.

THE forthcoming Dominion elections are likely to set things moving in regard to certain lines of paper at all events with a resulting demand for pulp.

PRICES are firm particularly in the case of mechanical pulp.

THE Metagama Pulp and Paper Co. have resumed production of unbleached sulphite the mill turning out about 130 tons daily. The company officials confirm reports as to the improvement in the pulp market.

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BRITISH IMPORTS OF CHEMICAL AND MECHANICAL WOOD PULP.

For the week ended October 22nd, 1921.

COMPILED FOR THE "WORLD'S PAPER TRADE REVIEW," BY ARRANGEMENT
WITH THE BRITISH WOOD PULP ASSOCIATION

An Official Account of the Registered Quantities and Values of Chemical and Mechanical
Wood Pulp Imported at the various Ports of the United Kingdom.

BLEACHED CHEMICAL-DRY

Date	Port	Vessel	Port whence	Quantity	Value	Importers
1921				Bales	Tons	£
Oct 21	Hull	Kovno	Christiania	180	20	680
" 22	"	"	"	180	20	680
" 22	"	"	"	60	10	200
			Add to Amend			
Oct 6	Bridgwater	Yisa	Skutskai	1,154	280	7,385
						Reed & Smith

UNBLEACHED CHEMICAL-DRY

1921				Bales	Tons	£	
Oct 17	London	Bagerstrand	Kotka	200	20	400	Price & Pierce, Ltd
" 20	"	Lisa Brodin	Sundsvall	50	10	160	Greenhalgh & Co, Ltd
" 20	"	Domina	Chicoutimi	8,000	800	15,000	Becker & Co, Ltd
" 21	"	Gerona	Christiania	500	100	4,070	J Dickinson & Co, Ltd
" 22	"	Ion	Stocka	1,600	200	9,200	Henderson, Craig & Co, Ltd
" 18	Grimsby	Gudrun	Soraker	1,800	761	10,274	Becker & Co, Ltd
" 18	"	Anna		10,750	2,150	64,700	Berner & Nielsen
" 19	Hull	Jollo	Gothenburg	158	30	845	Johnson, Jorgensen & Wettre
" 20	Manchester	Narya	Gefle	1,000	200	8,582	R Erikson & Co, Ltd
" 20	"	Borderland	Hamburg	100	18	229	Andrews & Co, Ltd
" 20	Pioston	Borderland	Narvik	5,726	596	10,640	R Erikson & Co, Ltd
" 20	Grangemouth	Breda	Drammen	1,000	200	8,400	Berner & Nielsen
" 21	"	Vina	Sundsvall	1,820	200	15,239	J T Salvesen & Co, Ltd
" 21	"	Meteo	Kopmuholm	1,827	303	12,125	Johnson, Jorgensen & Wettre
" 19	Leith	Dwina	Memil	75	15	200	Palmer, Flygt & Co, Ltd
			Add to Amend				
Sept 14	London	Regulus	Helsingfors	82	16	100	Limehouse Paperboard Mills
" 16	Hull	Schwalbe	Biemen	78	12	149	R Darwin & Pease
" 12	S Shields	Gothe	Domaio	960	60	2,700	Becker & Co, Ltd

MECHANICAL-WET

1921				Bales	Tons	£	
Oct 17	London	Tommeliten	Drammen	2,570	514	1,942	Berner & Nielsen
" 20	"	Domina	Chicoutimi	20,407	4,081	61,221	Becker & Co, Ltd
" 21	"	Bastant	Drammen	415	88	664	A E Reed & Co, Ltd
" 21	"			1,350	250	3,000	"
" 21	"	Alconda	Botwood	1,600	286	1,078	"
" 21	"	Bastant	Drammen	585	117	535	"
" 22	"		Leivig	10,000	2,000	15,400	Berner & Nielsen
" 22	"	Gerona	Drammen	5,315	97	11,728	E Lloyd, Ltd
" 18	S Shields	Stirling	Christiania	602	120	1,175	Johnson, Jorgensen & Wettre
" 5	Dublin	Wicklow Head	Hamburg	170	25	525	Becker & Co, Ltd

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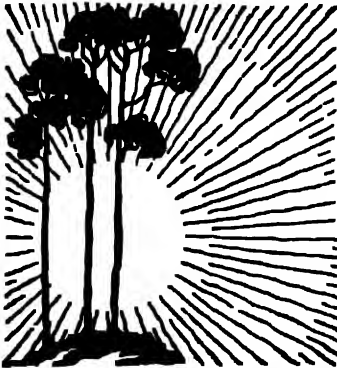
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Digestion of Straw.

Advantages of the Sodium Carbonate Process

An interesting discussion on the digestion of straw with sodium carbonate appeared in a recent issue of *Wochenblatt für Papierfabrikation* by Mr Fritz Paschke and Mr Clarence J West gives the following translation in the *Paper Trade Journal* (N.Y.)

The manufacture of chemical pulp began with the digestion of straw the Englishman Koops being the first to digest straw with sodium hydroxide for the purpose of preparing pulp. Later, chemical pulp was prepared from wood and this source of raw material became the most important. It was therefore logical that the technical developments should be principally concerned with the digestion of wood and that our knowledge of the process should be based on the digestion of this material rather than that of straw. At the present time the interest in the digestion of straw is increasing and many people are inclined to believe that the processes already developed for wood can be applied without modification to the digestion of straw. The chemical behaviour of straw, however, is quite different from that of wood. This is at once seen in the fact that straw is opposed to wood is not suitable for the manufacture of pulp by the sulphite process. But even

with the other digestion methods straw shows a different behaviour from that of wood.

Increased Interest Result of War

This increased interest in the digestion of straw is a result of the war. One cause was the shortage of food, which led to the attempt to digest straw in order to obtain a food substitute. Even though this need is not so pressing to day still the high price of chemical pulp is sufficient to create an interest in straw as a raw material. It naturally follows that the experience which was gained in the study of the digestion of straw for a food product could be profitably used in the manufacture of chemical pulp. Since in the digestion of straw for food the lime and sulphate processes could not be employed the sodium hydroxide digestion was tried. Difficulties of a chemical and a technical nature created the need for a better method of digestion.

Because of this two independent experiments were started on the digestion of straw with sodium carbonate. One was by H Pringsheim the other by the writer. While Pringsheim started from the point of view of the use of soda for digesting straw to improve the quality of the food product, the writer started with the viewpoint of the paper mill chemist. The use of sodium carbonate for digestion is in opposition to a dogma of cellulose chemistry (to be found in every text book) that soda is an unnecessary element in digestion which should be avoided as far as possible. While this dogma may be true for

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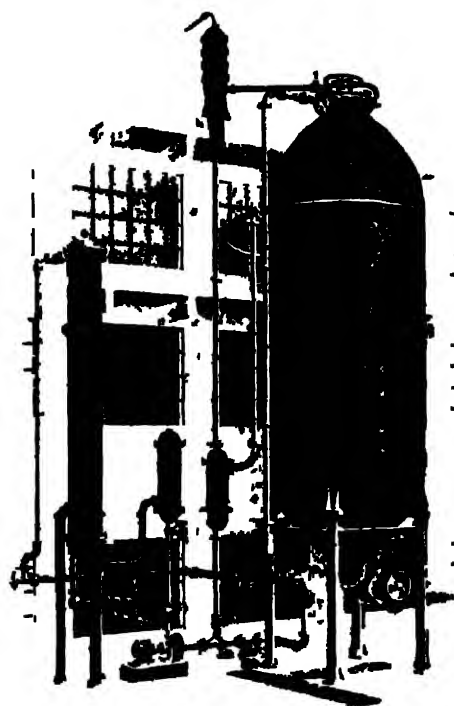
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the digestion of wood, it certainly is not true for the digestion of straw

Final Product Short

While sodium hydroxide even at a low temperature, has a solvent action for straw lignin, and at higher temperatures easily and completely dissolves the lignin, at the same time it attacks a considerable amount of the straw cellulose, so that the final product is short and hard (glassy). Sodium carbonate on the other hand, has a very slight solvent action for lignin at low temperatures, but as the temperature increases its solvent action also increases, so that at elevated temperatures it completely dissolves the straw lignin, but it does not attack the straw cellulose, and the cellulose, therefore, has better properties. Since sodium carbonate has a higher molecular weight than sodium hydroxide, the formation of the sodium salt of lignin, which is the result of the digestion will require the presence of a correspondingly larger amount of sodium carbonate. The sodium salt of lignin which is formed behaves, on titration, in the same way as sodium bicarbonate. If samples of the liquor are taken from time to time during the process of digestion and if these are titrated for soda in the usual way with ethyl orange as the indicator the titer remained constant and it appears as if no soda was being used by the digestion. Simultaneous titration with phenolphthalein shows, however, that the soda is being consumed. The sodium carbonate is not therefore an unnecessary ballast, but is capable of producing

a noticeable chemical digestion. Straw may be completely digested with sodium carbonate at eight atmospheres pressure with a yield of 40 to 45 per cent of pulp. The pressure may be increased to ten atmospheres without injury to the straw pulp. The resulting pulp is not hard (glassy) and has good properties (strength). Its colour is gray with a pale brownish tint, but is readily bleached. A small amount of added sodium hydroxide gives a brighter pulp.

Advantages of Sodium Carbonate Digestion

The advantages of the sodium carbonate digestion over the sodium hydroxide digestion are

The material is not attacked as much as by the sodium hydroxide, and therefore the soda pulp is stronger, is easy bleaching and may find use as half stuffs and as such possesses a natural sizing. The calcining or causticizing, which ordinarily is accompanied with difficulties because of the silica present is avoided and therefore the regeneration of the waste liquors is considerably simplified.

One interesting and important fact in connection with the recovery process is that if the waste liquor is separated from the pulp and allowed to stand for some time a precipitate is formed. If one determines the specific gravity the content of extract and the ash before and after the separation of the precipitate, it is observed that the formation of this precipitate causes a marked decrease in the specific gravity of the liquor and that the

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extract content is lower but that the extract is considerably higher in inorganic substance. In other words, there is a purification of the waste liquors by the precipitation of the lignin.

Another surprising thing is the fact that the carbon dioxide is not manifested as excess pressure during the cooking although it must be assumed that in the chemical reactions of the digestion process carbon dioxide is liberated. Likewise in the extract of the liquor very little carbon dioxide can be detected unless, of course this is mixed with an excess of soda. The lack of carbon dioxide has as yet not been explained.

Investigations Under Way

It may be supposed perhaps, that the carbon dioxide plays some role in the formation of the above mentioned precipitate and it is also conceivable that a reaction occurs, similar to the formation of salicylic acid in which sodium phenolate and carbon dioxide are concerned. The investigation of the function of the carbon dioxide in the decomposition process is under way. But whatever the chemical reactions involved may be, the fact remains that the soda liquors are freed from a part of their lignin content. Because of this it is often possible to use the liquors without evaporation and thus save this costly operation. The precipitate as well as the concentrated liquors may be used for the recovery of soda, by a kind of Le Blanc process, using lime and sodium sulphate, in

which the lignin is the source of the fuel. The calcium sulphide formed in this process may be worked over by the usual processes, so that there is no loss of sulphur as there is in the sulphate process. The small amount of sodium hydroxide formed in the process is advantageous to the digestion.

The precipitate which has been mentioned has been shown to be an excellent tanning material, yielding a good, pliable top leather of good colour. The precipitate also dissolves in acetic acid. If nitrosodimethylamine is added to this solution, there results a dye solution. The addition of a small amount of this to water gives a dye bath which colours silk and wool a permanent reddish brown.

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"Fine Paper" Costing.

Discussion on Mr Farrow's Paper Before
the Technical Section

Is Costing a Technical Subject?

Mr Farrow in the course of his paper, suggested that while it was written from the point of view of fine paper, consideration of the application of the underlying principle of his address would prove interesting and useful to the members of the Technical Section. His feelings of apprehension, on this point, were not relieved when he read a note in the *World's Paper Trade Review*, to the effect that costing hardly fell within the range of matters to be dealt with by that section. He would like to join issue with that statement. It was his humble opinion that the subject of costing was all important to technical people in any business (Hear hear). Just as book-keeping was the diary of the business if it recorded the financial effect of every executive action so should costing be a diary of the actions of the technical people in a manufacturing concern, silently but surely calculating records thereof to be used in evidence against them. He believed in open and frank discussion taking place between the financial administration and the technical sections of a business, for thereby only could the business move forward with the united efforts of all concerned, and in his opinion periodical costs were a vital matter on which such discussion should take place. The writer of the note in the *World's Paper Trade Review* realised the importance of the subject, and his suggestion that costing might well receive the consideration of a separate section of the Association deserved the attention of them all (Hear hear).

Importance of Costing

The chairman in inviting discussion referred to the social character of the gatherings of the Technical Section, which he looked upon as one of the really good sides of the movement. The more they met and talked together the more they realised that the old

suspicion of their competitors which existed before the war was a thing of the past. The motive of the Section, however, was not merely social intercourse, but a consideration of the larger problems which faced the industry. Incidentally he said he would rather like to ask Mr Farrow if he could tell them how to make profits in the present state of business (Laughter).

Proceeding Mr Goldstraw said no one would deny the extreme importance of a costing system, and he hoped all who were engaged in the industry would read and study Mr Farrow's paper. In his own concern they had a costing arrangement which was smaller and simpler than the system outlined for the fine mills. Costing was a matter which was coming very much to the front, not only in papermaking, but in other trades, and the chairman particularly mentioned the printing industry, which was allied to their own. He added that the Englishman was notoriously a man who worked by rule of thumb. Averages were all very well and they worked when there was a margin on selling price over the cost which was sufficient to provide for waste and other things that were not reflected in the system, but he was convinced that the sooner they got down to scientific costing the more likely they were to make a success of their business.

Hackfordian Comment

Mr F. Hackford who said his criticism should not be taken too seriously, accepted Mr Farrow's paper without much comment on the details, because any system of mill costing was based on accountancy or book-keeping lines and those responsible for drawing up the system and keeping the books were accountants and clerks. It was not the mill foreman, the engineer or the chemist who indulged in this kind of gymnastics (laughter). It is not their job. A mill foreman, engineer, or practical papermaker actively or passively according to their nature and disposition said: "I'm hanged if I'll be a clerk, I'm a papermaker, an engineer or a chemist, but as Mr Farrow said to be successful, a costing system necessitated the closest co-operation between the accounting and technical sides of the business. In small mills and mills dealing with few kinds of material and stan-

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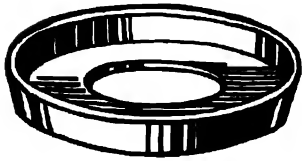
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standard papers costing systems should be easier to build, but in large mills full of complexities it took a long time to get figures into a sufficiently satisfactory state for managers to have sufficient faith in them to accept and act upon.

Dealing with costing on the practical and technical side—in the mill itself—systems were invented galore. There were sheets for almost every room material and chemical in the mill. The basis for the costing of all the raw materials, coal wages etc. was searched for for months and years but the engineer, chemist or the technologist was not necessarily a born financier or accountant. He was generally too stupid to realise that money was the alpha and omega of all business and so it was not till the accountant came that things shaped themselves and confidence in mill figures as the result of the combination of technologist and accountant began to be established.

From his (Mr. Heckford's) experience he thought the fuller value of costing would come when the foreman or chief of each department, room or office had to regard his own particular place as he did his own home—on £ 5 d (hear hear) when he could be put on a balance sheet. But they would first have to get him to place as much confidence in figures as he had now in engineering and chemistry, and give him as simple a method of book keeping as they could.

There was one point Mr. Farrow mentioned showing incidentally the use of figures—that was where the rag foreman gave returns of the yield of the different rags after sorting and dusting which helped the buyer in choosing. This was sometimes carried out completely when the yields of different rags as half stuff were returned. These tests however required more time and supervision than could be given regularly.

The system of costing itself as far as that went could run on book keeping lines like those of Mr. McNaughton's and Mr. Farrow's but after the foundation had been accepted it was supervision that counted.

For instance the manager in certain cases took the accountant's figures the accountant accepted those of the technologist and the technologist had to read and interpret not only the arithmetic of the workmen but to

enquire with innate knowledge into those gentlemen's very souls.

Mr. Heckford gave an illustration from a rag mill. An order was being made and the paper according to the book, was half out shots the rest esparto and a little soda wood. Halfway through the order, in the dead of night, the steeper man had not left a sufficient cargo of outshots. A beater was empty. A couple of tons of expensive soft cotton were at hand and the beater helpers' job was to fill that beater. He did (laughter)—and that cost sheet went west (More laughter). This is not usual of course, but still the paper maker used to accept no engineering and certainly no chemistry. He did to day and to morrow he would accept the accountant and his costing system although at first not with the same confidence and faith as the accountant accepted the figures he got from the mill.

Loss on Boiled Rags

Mr. W. W. Birrell was very much struck by Mr. Heckford's remarks with regard to what took place at 12 o'clock at night. His (the speaker's) experience when he was 30 years younger was that it was a very prevalent custom to get a hold of the best material and at the end of the week it was found the finer rags were deficient while the other sorts were in excess. He asked Mr. Farrow how he arrived at the loss on rags which contained foreign matter such as batter. As long as the rags were dry they were all fairly tight but when they came to be boiled and they attempted to move at the amount of waste that took place between the invoice weight and the actual amount of fibre they got in the paper, there arose the difficulty of estimating the loss. The speaker mentioned the case of what used to be called yellow cottons which contained a large amount of batter and which used to lose as much as 30 per cent which was only found out in the resulting fibre.

Mr. Farrow said the loss would not be shown in the costs until they came to the end when they would have an excessive absorption of rags for a particular operation. He did not think they could provide for differentiation between one grade and another. It would come out in the actual make of the

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paper. If they costed each make every time they used that particular grade of rag they would find an exceptional percentage of loss of rag fibre.

Attitude of Technical Men

Mr Arthur Baker expressed high appreciation of Mr Farrow's paper. Referring to the speaker's observations with regard to the paragraph in the *World & Paper Trade Review*, which was not the expressed opinion of the Editor he said there was no doubt that the address was a suitable one to be brought before the Technical Section (Hear, hear). For one reason, in the past technical men such as engineers and practical papermakers had not realised the necessity for a real costing system in their work. Many of them may have realised that a costing system was desirable, but they had never put their backs into the task of carrying it out when it was introduced. They had much the same attitude of mind that the papermaker formerly had with regard to the chemist and the engineer. It is true that some years ago costing systems generally speaking were very rare. Papermakers were content with a monthly trading account or a half yearly balance sheet. More recently however efforts had been made to put the industry on a costing basis and it was very desirable that figures were got out on some sensible plan otherwise they got their costs irregularly with the result that people were 'put out of business,' or the product was placed on the market at a cost which was far too high. They knew the latter was the case in a kindred industry and it was a very important point Mr Baker thought it quite a sound method that materials should bear all the expenses incurred in connection with getting them into the factory or the warehouse. He went on to ask Mr Farrow what he considered the shortest period for which costs should be got out whether weekly or once a month. The paper had been written with reference to a fine mill where they were dealing with a high priced product. In such a mill an elaborate system could be carried out and labour charges might become very excessive if there was no proper supervision. But supposing they were working out a costing system for a comparatively large mill, say of four machines, and two of those machines were making quite different

qualities of paper from the other two, how would Mr Farrow deal with the allocation of the on cost charges if he desired to obtain individual costs on different machines? Would he base his on cost and other direct charges on a tonnage basis, or in relation to the width of the machine?

Differential Profits

Mr E. A. Dawe, H.M. Stationery Office referred to the sub division of the Papermakers Association into various sections covering fine writings, news wood free, and esparto. They all introduced a similar costing system and they all agreed on a selling price, but they were making differential profits. He asked if that system was to continue, or was the manufacturer to be a free agent and sell his paper at a fair profit. Mr Dawe took exception to a statement of Mr Farrow's that the thick papers paid for the thin. It had been made the excuse for not making thin printing during the war that there was no tonnage. Tonnage was the fetish of the paper mill. They were not making paper for posterity but for the pocket. He asked papermakers to get these things out of their minds and to introduce a system of costing so that they could make their thin papers pay for themselves. The speaker also complained that manufacturers charged variable prices for their wrappers and string. He urged them to eliminate that practice and charge all the time price.

Mr Dawe put a variety of other common drunks which induced the chairman to observe that perhaps it was a doubtful advantage to have a consumer amongst them. Mr Dawe however had given them an idea and that was if there was to be a costing system in the paper trade so far as the mills were concerned it should be on a uniform basis. It was a question whether they should base their price on the square inch or per ton but whichever factor they used as a basis they got a different result when it came to a question of substance. That explained why different prices were charged for different substances.

Mr E. J. Guild representing a small hand made mill said he was in a position to give the figures of the dry weight of hoiled rags that was to say they were in a position to weigh the rags after they were hoiled and he would be pleased to give Mr Farrow the in

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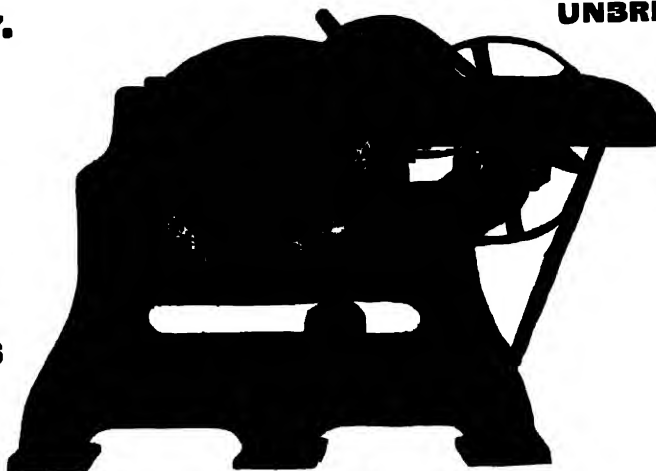
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formation. These figures showed not an estimated loss, but an actual loss in boiling.

Mr L. N. Burt said if they were going to add a percentage for on costs, how were they going to arrive at the proportion between their output and the percentage they added? Supposing they took an average of five years' output at the mill and they calculated their total charges, in preparing their estimate they would not know what their output for the time would be, particularly in conditions such as prevailed now. What rule would Mr Farrow lay down to tell them what percentage they should put on in preparing estimates so that they covered their running charges? The ordinary method of arriving at their on costs worked out fairly well on an average, but occasionally they found slight discrepancies between the charges which were made. If Mr Farrow could lay down some definite rules for arriving at on costs it would be a great help not only to paper makers, but to other people. Mr Burt added that if a little more attention was paid to educating workpeople in the rudiments of bookkeeping, so that they could understand a balance sheet, employers would have a great deal less trouble with the workpeople when they came to settle wages and hours and so on. (Hear, hear)

Millions Saved by Costing

In replying to the discussion Mr Farrow first took up the question at what intervals costs should be taken. He mentioned that he was in charge of the costing of the Explosives Department of the Ministry of Munitions during the war and there were 83 factories. At one of these factories they had a daily cost and at 6 o'clock in the morning the cost of production was put on the superintendent's desk. In that way many millions of money was saved to the country. At Gretna where some 40,000 people were employed they got out monthly costs with a similar saving. When they came to the costs of a paper mill if the arrangements and the local conditions allowed he thought the power plant should be costed weekly. As to ordinary costing he thought the periodical costs should run monthly say four or five weeks. With regard to the allocation of on costs in a multi-machine mill, the method they adopted was to work on the number of inches of the machine. With regard to the overhead charges, one could deal with them in a number of ways. Referring to Mr Dawe's quotations of prices for Wiggins, Teape papers Mr Farrow mentioned that one of those referred to attained a very high standard of efficiency and on that they obtained a very high price. On the other hand, for a bank paper which had to

compete with foreign paper, which was imported, the price was not fixed according to the cost but according to what they could get on it, and they lost money on that particular grade. Dealing with the question of what the output was likely to be, Mr Farrow said in their case they took one month with another and they had the figures for every machine showing on costs for every 10 per cent from 30 up to 100 per cent, so that they knew for every machine according to the output what they would get from that machine if they worked full time. From this table they knew exactly what the on cost would be according to the percentage of output and they knew how they stood in every make of paper. Mr Farrow intimated that if he could be of any assistance to paper makers he would be pleased to help them in any way he could.

Value of Technical Discussions

In proposing a vote of thanks to Mr Farrow for his paper, Mr Goldstraw again emphasised the importance of the technical gatherings and the good which each of them derived from them. His experience of the last few years both in the Federation and in the Association convinced him that it did no harm to discuss their affairs in a general way with their competitors, in fact, only good resulted and they stood to gain more than to lose by the interchange of ideas. He expressed the hope that they would have more costing papers before the Technical Section because while technology was very valuable in the paper mill, it would soon come to an end if the costing end of the business did not show a profit.

The vote of thanks having been cordially carried, Mr Foster corrected Mr Dawe with regard to a settled price being arranged by the sections of the Association observing that there was nothing of the sort. They only wished there were. One of the curses of the papermaker was that, whatever the technical gentlemen might do, the selling end could not get a price that would show a profit.

Mr Foster elicited the opinion that Friday was the most convenient evening to hold the meetings and that the assembly should be 7 p.m. instead of half past seven.

Among others attending the meeting, in addition to the speakers, were Messrs A. E. Bone, R. H. Clapperton, W. A. Cuss, D. R. Davey, R. Dennis, J. Eccles, R. M. Harvey, E. Jackson, Sheldon Leicester, E. McKean, R. Marshall, Major Marx, J. Paramor, W. H. Silvester, C. Snelling, Felix J. Thomas, W. J. F. Thomas, R. Turner, F. W. Vickery, H. D. Wilkinson, G. H. Hedley, A. E. Hunter, and H. Snelling.

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Paper Trade Statistics.

Imports and Exports Concerning a Variety of Countries

A return issued by the Board of Trade dealing with the imports and exports of certain foreign countries and British Possessions gives some interesting information not generally available concerning dealings in paper.

NORWAY—Norway exported printing paper during the six months ended June 1921, to the extent of 27,595 tonnes (1 tonne = 2,204 lbs.) 60,358 for the corresponding period of 1920 and 27,390 for the same period of 1919. The exports of packing paper over the six months this year only amounted to 1,848 compared with 37,989 last year and 20,495 for the six months of 1919.

SWEDEN—Sweden in the seven months ended July, 1921 exported in paper of all kinds 77,246 tonnes against 165,431 in the corresponding period of last year and 56,353 in 1919.

DENMARK—The figures relating to Denmark are given in 1,000 kroner (kroner = 13 1/2d). Imports of paper and paper manufactures in the first seven months of this year amounted in value to 15,042 contrasted with 24,574 last year and 14,376 for the corresponding seven months of 1919.

NETHERLANDS—The Netherlands show a big increase during the eight months of this year in the demand for printing and writing paper (including news print) over the eight months of 1919, although a smaller quantity is registered when compared with the eight months of 1920. In 1921 (eight months) her imports of paper (in tonnes) amounted to 15,413 compared with 21,894 last year and 5,764 for the eight months of 1919. As regards her exports of printing and writing paper (including news print) a noteworthy increase is shown in the quantity for the eight months period of this year compared with the corresponding periods of 1920 and 1919 viz 19,329 (1921) 9,572 (1920), and 8,956 (1919).

BELGIUM—Paper and cardboard were imported into Belgium for the six months ended

June this year to a lesser extent than in the corresponding periods of 1920 and 1919. The figures (in tonnes) are 8,948 for the six months of this year, 16,516 for 1920 and 10,232 for the six months of 1919. While a decrease is shown in her imports, a very big increase is registered in exports. In the six months ended June, 1919 the quantity of paper and cardboard exported stood at 442, to June 1920 9,322, and June, 1921 12,894.

FRANCE—The imports for France are for the seven months ended July 1921 1920 and 1919 and the figures represent 100 kilogs (equals 220 1/2 lbs.) paper and manufactures (including books), 499,103 899,816 and 564,613 respectively. Exports for this year show very little diminution compared with the two previous years viz 182,106 (1921) 189,524 (1920) and 113,540 (1919).

SWITZERLAND—Printing paper exported from Switzerland amounted to 26,400 (100 kilogs) for the first six months of this year to 179 (1920) and 4,125 (1919) (corresponding periods).

SPAIN—Exports from Spain of paper for cigarettes (in tonnes) for the six months ended June 1921 amounted to 1,991 for the six months of 1920 to 1,515 and for the corresponding period of 1919 1,529.

ITALY—Paper (white or dyed in the pulp) exported from Italy during the first four months of this year represented 1,779 (100 kilogs) 1920 15,619, and 1919 to 1,549.

GREECE—Greece imported 4,221 tonnes of printing paper in 1920 (eleven months) 2,112 in the corresponding period of 1919. Writing paper imported during the eleven months period of 1920 amounted to 1,080 tonnes and for the corresponding period of 1919 927.

SIAM—Siam (Port of Bangkok) during the seven months ended July 1921 took 1,217 tonnes of imprinted paper in the same period of last year 855 tonnes and 630 tonnes in 1919.

BRITISH INDIA—Paper—unenumerated in the returns was imported into British India during the four months ended July 1921 given in thousands and rupees (rupee = 2s) amounted in value to 65 75 in the corresponding four months of 1920 to 1 55 63 and to 71 54 during the four months of 1919.

CEYLON—Printing paper was received into Ceylon during the six months ended June

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1921 to the extent of 18 247 reams (comparing with 35 572 and 12 207 in the corresponding periods of 1920 and 1919 respectively). Writing paper imported during the six months of 1921 represented 24 750 reams, comparing with 35 902 and 19 662 for the corresponding periods of 1920 and 1919.

NEW ZEALAND—In the five months ended May this year New Zealand imported 154 234 cwt. of paper against 93,455 in the corresponding period of 1920 and 137 884 in 1919. The respective values for the three periods were £673 000 (1921), £170 000 (1920) and £321,000 (1919).

BRITISH SOUTH AFRICA—Printing paper was received into B S Africa during the six months ended June, 1921 to the extent of 167 023 cwt., and in the six months of 1920 79 183. The imports of wrapping paper also show an increase for the six months of this year over the six months of last year.

EGYPT—The biggest item in the list of Egyptian imports coming under the heading of paper is that of wrappings which amounted in quantity (kilogs.) to 4 667 017 for the seven months ended July 1921 to 4 936 966 for the corresponding period of 1920 and to 2 442 447 for the seven months of 1919. Cardboard and printings were also largely imported into Egypt during the seven months of 1921, although in a less degree than in the two previous years.

Berlin Paper Activity.

The position of the paper market in Berlin has become still stronger and the demand for the most used sorts is very heavy. In several mills stocks amounting to many hundreds of thousands of kilos were quickly sold out. Orders have come in so quickly and for such quantities in the last few weeks that mills cannot promise deliveries for 10 or 12 weeks. Certain kinds are sold out from many mills and others are unable to book further orders for the present. The Convention has raised the price by 50 M per 100 kg. and thin paper from 30 grm. have had about 90 M per 100 kg. added.

Present pulp prices held till the end of October when it is expected that an advance is unavoidable.

Wood Pulp Trade.

Depression Passing Away and Improvement Reported

The trade is still very much depressed but there is a decided improvement. Stocks on this side are getting low especially of mechanical pulp and a good few sales have been effected at increased prices. Owing to depleted stocks in Norway the prices for mechanical pulp have been raised about 15 to 20% per ton during the present month says the official organ of the Norwegian Chamber of Commerce London and owing to low water etc. there is every probability of prices being advanced still further anyhow so far that shippers may get back the cost of production plus a reasonable profit.

The chemical pulp market is meantime still in a very bad way. With the very slack trade in better class papers the stocks on hand will last much longer than in ordinary times and with the abnormal exchanges buyers do not feel they can cover for anything but immediate requirements. The Finnish and German exchanges enable those countries to undersell the Scandinavians to such an extent that it is very seldom in order to be obtained for Scandinavian chemical pulps. The available stocks in the two countries indicated are apparently getting small but with very limited demand up to the present they have been sufficient.

The British papermakers do not seem to be getting any assistance under the Anti Dumping Act but possibly the Government's Export Credit Bill will help trade to a certain extent though it is too early yet to say anything definite about that.

On the whole there is hardly any doubt that we have passed the low water mark and that we may look forward to a slow but sure improvement.

New industries in China include a Sino Japanese paper mill to be established in the Province of Kiuin with a capital of 5,000,000 yen.

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Chemicals

Business in chemicals especially in alkali products is developing a better tone. Paper making is among the industries which is spoken of as showing a better tone and in which there is an increasing demand for chemicals. There is still no improvement to report on export account. **AMMONIA ALKALI** in fairly good inquiry, is £8 7s 6d to £8 12s 6d per ton for home trade uses, and £9 15s to £10 per ton for export. **BLEACHING POWDER** is quiet, and is £15 per ton for the home trade and £16 to £16 10s for export. **CAUSTIC SODA** is in good demand with a fair inquiry for export account. Quotations are £25 to £26 per ton for 76 per cent, £24 to £25 per ton for 70 per cent, and £23 to £24 per ton for 60-62 per cent, carriage paid. **SALT CAKE**, which experiences a moderate demand is £5 10s per ton in bulk and £6 10s per ton for export. **ALUM** presents no new feature. Export trade is slack, though there are signs here and there of a slight revival. Quotations stand at £16 to £17 per ton. **SULPHATE OF ALUMINA** in improved demand is quoted £12 10s to £15 per ton, according to grade. **SULPHUR** is in steady request, quotations being English flowers £15 to £15 10s per ton. Roll £14 10s to £15 per ton and Rock £12 to £13 per ton. **Sicilian grades** Flowers £13 10s per ton. Roll £13 per ton, and Rock £7 per ton.

Chemical Wood Pulps

A decidedly better feeling is reported in the market for chemical pulp, and prices are firming up. The accumulated stocks on this side which have been on offer at tempting prices are being cleared off the market and there is an improved demand for overseas shipment. Supplies from mid European countries are scanty, and it is said they are likely to be much scarcer.

Mechanical Wood Pulps

A fair inquiry has set in for mechanical pulp especially for winter delivery, and considerable business has been done in moist mechanical at advanced prices. The scarcity of water in Norway is affecting the supply and already it is said British papermakers are on the look out in respect of their 1922 requirements.

Esparto

Very little is being done in the esparto market, business being confined to odd lots, for which unremunerative prices are generally being paid.

Home Rags.

LONDON—There is no material change to report in the market for home rags. Demand is very small, although prices remain unchanged.

BRISTOL—A few more inquiries are on foot, but the pace needs accelerating badly. With paper manufacturers meeting the market however, there is said to be no doubt about the actual outcome, and trade will follow.

MANCHESTER—The rag market is very quiet with little or no demand for any grades but manilla rope, which is being shipped.

Waste Papers

Waste papers are still something of a drug on the market. Movement of stock is very slow and prices, although not so hopelessly weak as they have been, can scarcely be described as firm.

Sizing

The market for sizing materials is still on the quiet side, although there are signs of some slight improvement. Easier prices, it is hoped, may lead to improved business.

Loadings, etc

The market for china clay and other loadings is not quite so depressed as it has been. In regard to china clay it is stated there is a marked improvement in shipments although the call for the material is still below normal.

Telegrams: "Stocker Stoke on Trent" Phone: 613

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Samples and Prices on Application.

ESPARTO.

C.I.F. U.K. Ports

Spanish—First Quality	53 10	—	—	0 0
China	—	—	—	—
Spain and Philippines—First Quality	53 17	—	—	4 5
Spain and Cuba—First Quality	—	—	—	—

HONG KONG.

Nominal Prices

LONDON	
N. White Cuttings	50/6
New Prints and	50/6
Solids	50/6
New Dark Cut	50/6
tings (Best)	50/6
Prints (selected)	50/6
" (ordinary)	50/6
Outlets	50/6
London Seconds	50/6
Country	50/6
Soft	50/6

BRISTOL	
Prints	50/6
Outlets	50/6
Seconds	50/6
Thirds	50/6
Mixed Bagging	50/6

MANCHESTER	
Prints	50/6
Outlets (best)	50/6
" (ordinary)	50/6
Seconds	50/6
Thirds	50/6
Prints	50/6
Selected Prints	50/6

EDINBURGH	
N. Unbleached	50/6
Cottens	50/6
N. Light Prints	50/6
N. Dark	50/6
N. Nine Dangers	50/6
Superfines	50/6
Outlets	50/6
Best Seconds	50/6
Ordinary Seconds	50/6
Thirds	50/6

GLASGOW	
Best Prints	50/6
Second Prints	50/6
Ordinary Seconds	50/6
Common Seconds	50/6
Old Best L.T. Prints	50/6
Old Clean Prints	50/6
New White Shirt	50/6
Cuttings	50/6
New Light Prints	50/6
and Solids	50/6

FOREIGN RAGS.

Prices @ L.F. Thames

Extra Linen	60/6	Blue Linen, No. 1	40/6
White Linen, No. 1	50/6	Footings	10/6
" No. 2	40/6	Old Bagging (solid)	40/6
" No. 3	30/6	" (common)	40/6
" No. 4	20/6	Hemp, tarred in coils	40/6
" No. 5	10/6	Hemp, tarred in coils	40/6
Grey Linen (medium)	30/6	New Cuttings	40/6
" (small)	20/6	White Linen	70/6
White Cotton, No. 1	50/6	Unbleached Linen	70/6
" No. 2	40/6	Grey Linen	70/6
" No. 3	30/6	Extra White Cotton	80/6
" No. 4	20/6	Ordinary	30/6
" No. 5	10/6	Certain Cuttings	30/6
White Knitted	20/6	Solids	60/6
Knitted	20/6	New Light Prints	20/6
Extra Light Prints	20/6	Unbleached Cotton	50/6
Light Prints	20/6	Oxford	30/6
Dark Prints	20/6	Flannel	30/6
Blue Cotton, No. 1	10/6	Rope Cotton	20/6

BALING TWINE.

Hemp	10d per lb.	11d per lb.	12d per lb.
Mixed	9d per lb.	10d per lb.	—

WASTE PAPERS.

In Free-packed bales f.o.r.

	per cwt
Cream Shavings	10 1/2
Fine Shavings	10 1/2
Second Shavings	10 1/2
Cardboard Cuttings	10 1/2
Best Old Cuts	10 1/2
White Woody Chip Cuts	10 1/2
Manilla and Best Cuttings	10 1/2
Woody Old Cut	10 1/2
White Wood Pulp Cuttings	10 1/2
Pam Shavings (Light Colours)	10 1/2
Pam Shavings (Dark Colours)	10 1/2
Ledgers	10 1/2
Heavy Letter	10 1/2
Light Letter	10 1/2
Quire (Best)	10 1/2
Quire (Woody)	10 1/2
Best Pamphlets	10 1/2
White Woody Pamphlets	10 1/2
Coloured Woody Pams	10 1/2
News (Flat)	10 1/2
Crushed News	10 1/2
Kraft Browns	10 1/2
Light Browns	10 1/2
Mixed Browns	10 1/2
Leatherboard Cuttings	10 1/2
Coloured Cards	10 1/2
Strawboards	10 1/2
Mixed Papers	10 1/2

COLOURS. Nominal Prices, net, delivered in Free Packages

	Per Ton	Per lb
Mineral Black	£5 10 0	0 10 0
Carbon Black (English)	£5 10 0	0 10 0
Carbon Black (American)	£5 10 0	0 10 0
Ochre (English and Irish)	£5 10 0	0 10 0
Ochre (Spanish), splendid barrels, gross weights, casks free	£5 10 0	0 10 0
Red Oxide, 65%	£5 10 0	0 10 0
Red Oxide (Spanish)	£5 10 0	0 10 0
Venetian Red	£5 10 0	0 10 0
Burnt Turkey Umber	£5 10 0	0 10 0
Brown Umber	£5 10 0	0 10 0
Vandyke Brown Powder	£5 10 0	0 10 0
Soluble Brown Crystals	£5 10 0	0 10 0
Pulp	£5 10 0	0 10 0
Prussian Blue Paste, 30% Per lb	£5 10 0	0 10 0
Prussian Blue Powder	£5 10 0	0 10 0
Brown Blue	£5 10 0	0 10 0
Chrome (Pure) Per Ton	£5 10 0	0 10 0
Pure Zinc Oxide	£5 10 0	0 10 0
Lithopone, 30%	£5 10 0	0 10 0
Paste Black 33%	£5 10 0	0 10 0

According to Brand

ROBIN. Per cwt net in wharf London

	B	F	G	K	N	WG	WW
American	17/6	17/6	17/6	18/6	18/6	19/6	20/6
French	17/6	17/6	17/6	18/6	18/6	19/6	20/6

In barrels, there is per cwt in casks, there is per cwt

SIZING. Prices are normally as under—

	Per cwt	Per ton
English Gelatins	100/6	100/6
Foreign	100/6	100/6
Fine Scotch Glue	100/6	100/6
Best Long Scotch Glue	100/6	100/6
Common Black Glue	100/6	100/6
"Tow" Glue	100/6	100/6
"Bone" Glue	100/6	100/6
Foreign Glue	100/6	100/6
Best Glue	100/6	100/6
Gelatins	100/6	100/6
Picker Waste	100/6	100/6
Star Hide (Shavings, No. 1)	100/6	100/6
Common Hide	100/6	100/6
Tanners' Wet Hide	100/6	100/6

STARCH. Delivered

	Per cwt
Malta—Chip	£5 10 0
Flour	£5 10 0
Special (1 cwt bags)	£5 10 0
Various—Special	£5 10 0
Rice—Granulated (in bags, 5 ton lots)	£5 10 0
Flour	£5 10 0
Domestic—Superior	£5 10 0
Malta	£5 10 0

